SCREENING SITE INSPECTION REPORT
FOR
DIAMOND INTERNATIONAL CORPORATION
U.S. EPA ID: ILD980683197
SS ID: NONE
TDD: F05-8709-003
PAN: FIL0529SA

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International Specialists in the Environment

SIGNATURE PAGE
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1. INTRODUCTION

Ecology and Environment, Inc., Field Investigation Team (FIT) was tasked by the United States Environmental Protection Agency (U.S. EPA) to conduct a screening site inspection (SSI) of the Diamond International Corporation site under contract number 68-01-7347.

The site was initially discovered by the Illinois Environmental Protection Agency (IEPA). Apparently, the site was submitted as a potential hazardous waste site because of the existence of evaporated wastewater lagoons on the property. The site was evaluated in the form of a preliminary assessment (PA) that was submitted to U.S. EPA. The PA was prepared by Kenneth W. Corkill of the IEPA and is dated May 3, 1986.

FIT prepared an SSI work plan for the Diamond International Corporation site under technical directive document (TDD) F05-8705-013, issued on May 4, 1987. The SSI work plan was approved by U.S. EPA on August 4, 1987. The SSI of the Diamond International Corporation site was conducted on October 27, 1987, under TDD F05-8709-003, issued on September 1, 1987.

The FIT SSI included an interview with a site representative, a reconnaissance inspection of the site, and the collection of six soil samples.

The purposes of an SSI have been stated by U.S. EPA in a directive outlining Pre-Remedial Program strategies. The directive states:

> All sites will receive a screening SI to 1) collect additional data beyond the PA to enable a more refined

> preliminary HRS [Hazard Ranking System] score, 2) establish priorities among sites most likely to qualify for the NPL [National Priorities List], and 3) identify the most critical data requirements for the listing SI step. A screening SI will not have rigorous data quality objectives (DQOs). Based on the refined preliminary HRS score and other technical judgement factors, the site will then either be designated as NFRAP [no further remedial action planned], or carried forward as an NPL listing candidate. A listing SI will not automatically be done on these sites, however. First, they will go through a management evaluation to determine whether they can be addressed by another authority such as RCRA [Resource Conservation and Recovery Act].... Sites that are designated NFRAP or deferred to other statutes are not candidates for a listing SI.
>
> The listing SI will address all the data requirements of the revised HRS using field screening and NPL level DQOs. It may also provide needed data in a format to support remedial investigation work plan development. Only sites that appear to score high enough for listing and that have not been deferred to another authority will receive a listing SI (U.S. EPA 1988).

U.S. EPA Region V has also instructed FIT to identify sites during the SSI that may require removal action to remediate an immediate human health and/or environmental threat.

2. SITE BACKGROUND

2.1 INTRODUCTION

This section includes information obtained from the SSI work plan preparation and site representative interview.

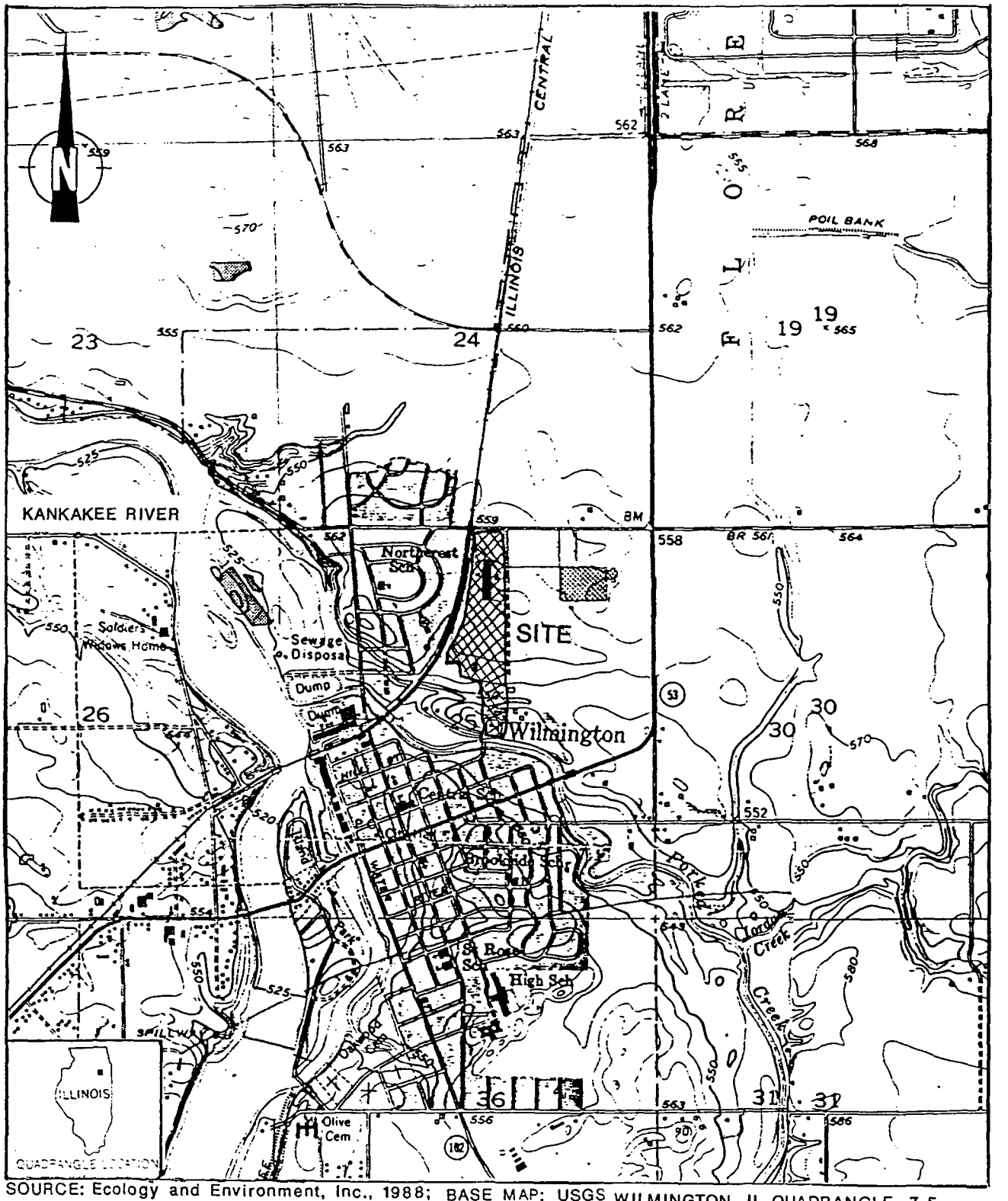
2.2 SITE DESCRIPTION

The Diamond International Corporation site is an inactive facility where "Vanity Fair" paper products (napkins, towels, toilet tissue, and facial tissue) were formerly manufactured. Two dry wastewater lagoons and one lagoon that still holds water are present on the site and were used in the treatment of wastewater from the papermaking process.

The site is located on a 51-acre parcel of land in a rural area of Wilmington, Illinois, in Will County (T.33N., R.9E., Sec. 25) on Peotone Road (see Figure 2-1). A 4-mile radius map of the Diamond International Corporation site is provided in Appendix A.

2.3 SITE HISTORY

The original owner of the property was Art Leopold, who operated the Stonebridge Paper Company and erected the on-site building in 1955. The property was sold to Johnson & Johnson, Sulfide Division, in 1971. Johnson & Johnson was also involved in paper production on the site. Diamond International Corporation acquired the property from Johnson & Johnson in August 1973, and operated it until February 1, 1980. The facility remained inactive until C.P. Inorganics purchased the property



SOURCE: Ecology and Environment, Inc., 1988; BASE MAP: USGS WILMINGTON, IL QUADRANGLE, 7.5 MINUTE SERIES, 1973.

SCALE
0 0.5 1 MILE

FIGURE 2-1 SITE LOCATION

on June 21, 1986 (Arnett 1987; Baskerville March 2, 1988). There have been no documented regulatory-related response activities at the site (IEPA 1986).

During the period of ownership by Diamond International Corporation, the entire papermaking process was completed at the plant. Wood pulp was converted to paper and the finished products were packaged at the plant and shipped by truck or rail for distribution. The lagoons were installed by Diamond International Corporation to aid in the filtration of water used in manufacturing. The preliminary filtration occurred in the on-site building, where fibers and pulpy residues were removed from the water. The water was then pumped into the lagoons for aeration and sediment settling. Occasionally, water would accumulate in the basement of the on-site building and would also be pumped into the lagoons. According to the site representatives, the lagoons were not used for any purpose other than those stated above (Arnett 1987; Baskerville March 2, 1988).

The site property is currently owned by C.P. Inorganics, headquartered in Norfolk, Connecticut. C.P. Inorganics uses the on-site building for warehousing, but no other operations are currently active on-site. According to inventory lists, the following substances are stored at the facility: nickel sulfate, nickel nitrate, nickel chloride, cupric chloride, thiourea, urea, sodium sulfide, Greens Keeper fertilizer, ferric chloride, ferric sulfate, ammonia chloride, copper carbonate cake, copper turquoise, empty new drums, and new pallets. C.P. Inorganics intends to reopen the facility for the manufacture of liquid fertilizer (Arnett 1987; Baskerville May 24, 1988).

3. SCREENING SITE INSPECTION PROCEDURES AND FIELD OBSERVATIONS

3.1 INTRODUCTION

This section outlines procedures and observations of the SSI of the Diamond International Corporation site. Individual subsections address the site representative interview, reconnaissance inspection, and sampling procedures. Rationales for specific FIT activities are also provided. The SSI was conducted in accordance with the U.S. EPA-approved work plan.

The U.S. EPA Potential Hazardous Waste Site Inspection Report (Form 2070-13) for the Diamond International Corporation site is provided in Appendix B. The U.S. EPA Immediate Removal Action Checksheet for the Diamond International Corporation site is provided in Appendix C.

3.2 SITE REPRESENTATIVE INTERVIEW

Melanie J. Nesterenko, the FIT team leader, conducted an interview with Ed Arnett, employed as a controller by C.P. Inorganics at the firm's Joliet office located at 10 Industrial Avenue in Joliet, Illinois, and with Millie Baskerville, employed by C.P. Inorganics as an administrative secretary. Ms. Baskerville began working at the facility when it was owned by Stonebridge Paper Company. The interview was conducted at the site on October 27, 1987, at 10:00 a.m.

Also present at the interview was Kevin Lyons of FIT. The interview was conducted to gather information that would aid FIT in conducting SSI activities.

3.3 RECONNAISSANCE INSPECTION

Following the site representative interview, FIT conducted a reconnaissance inspection of the Diamond International Corporation site and surrounding area in accordance with Ecology and Environment (E & E) Health and Safety guidelines. The reconnaissance inspection included a walk-through of the site to determine appropriate health and safety requirements needed to conduct on-site activities and to make observations to aid in characterizing the site. FIT also determined exact sampling locations during the reconnaissance inspection.

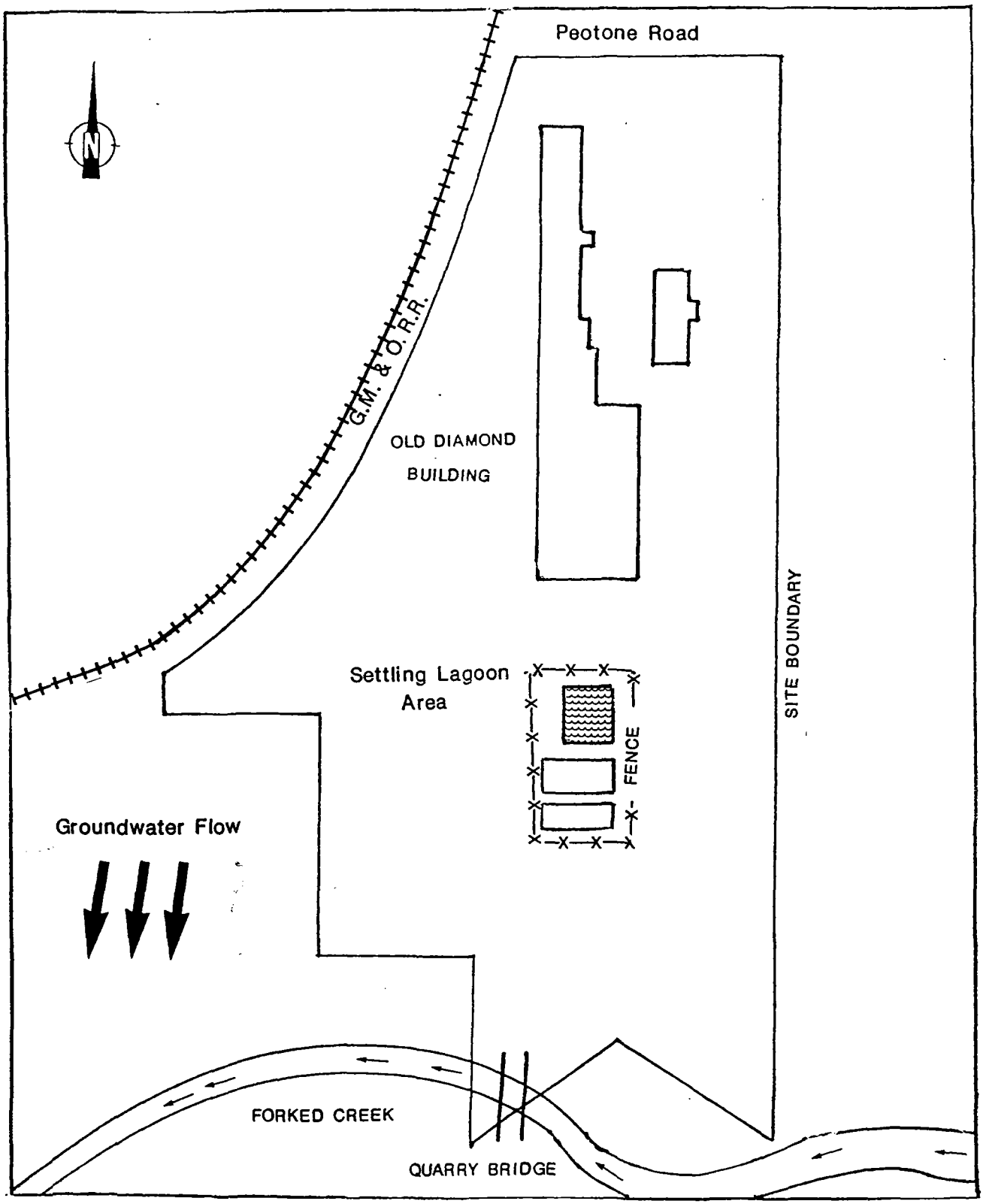
The reconnaissance inspection was begun on October 27, 1987, at 11:00 a.m. No site representative chose to accompany FIT during the reconnaissance inspection.

Reconnaissance Inspection Observations. The Diamond International Corporation site is located on a 51-acre parcel of land, which is covered with brush and light forest. Land use in the vicinity of the site is primarily agricultural, with scattered industries nearby. The surface topography of the area surrounding the site slopes southwest toward the Kankakee River (A & H 1987).

The site is bordered on the north by Peotone Road, on the south by Forked Creek, on the west by a fence and the tracks of the G.M. & O. railroad, and on the east by a Johnson & Johnson Personal Products plant. The site perimeter is not wholly fenced, but three security guards are employed by C.P. Inorganics (Arnett 1987). No security guards were observed during the SSI. The area of the site occupied by the three wastewater lagoons is fenced and locked (see Figure 3-1 for locations of site features).

The three wastewater lagoons are located approximately 690 feet south of the on-site building. Dimensions of the two dry lagoons are approximately 30 feet by 10 feet by 12 feet deep. Dimensions of the lagoon that still holds water are approximately 30 feet by 30 feet. The water-filled lagoon is of unknown depth. Material on the bottom of the dry lagoons was gelatinous.

Flora around the lower perimeter of the dry lagoons appeared stressed, and flora did not grow on the bottom of the dry lagoons. Flora was abundant around the upper perimeters of the dry lagoons.



SOURCE: Ecology and Environment, Inc., 1988.

APPROXIMATE SCALE

0 200 400 600 800 1000 FEET

FIGURE 3-1 SITE FEATURES

The on-site topography is hilly. Surface drainage is into Forked Creek on the southern boundary of the site. Forked Creek is perennial and flows westward into the Kankakee River. The creek is located approximately 1,381 feet south of the on-site building. According to a United States Geological Survey (USGS) topographic map, the creek enters the Kankakee River approximately 1/2 mile from the site. The creek is approximately 15 feet wide at the site boundary. At the southern boundary of the site, a bridge crosses over Forked Creek leading into a residential area. The FIT team observed one deer during the reconnaissance inspection. Photographs of the Diamond International Corporation site are provided in Appendix D.

3.4 SAMPLING PROCEDURES

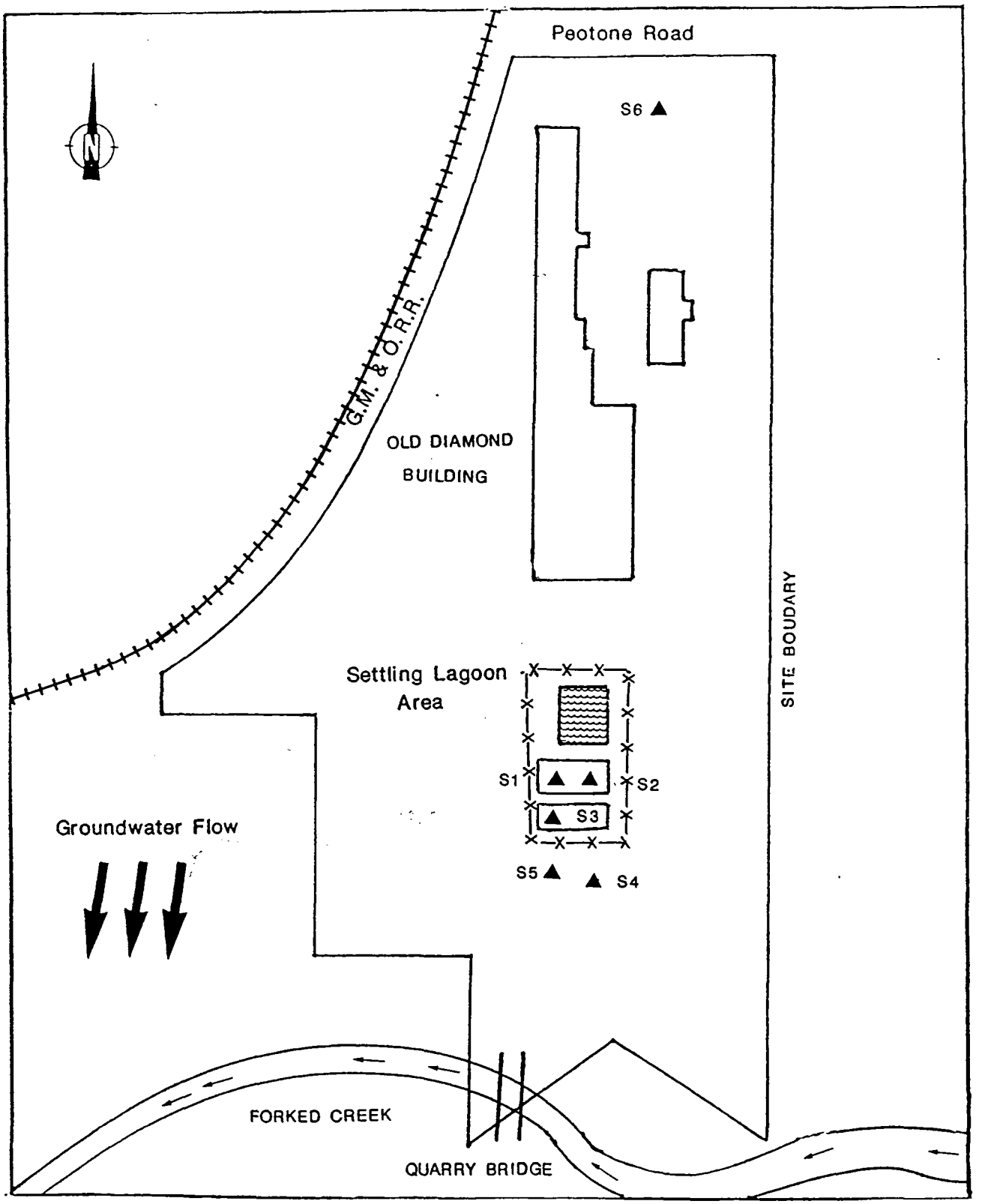
Samples were collected by FIT at locations determined during the reconnaissance inspection to determine levels of U.S. EPA Target Compound List (TCL) compounds and U.S. EPA Target Analyte List (TAL) analytes present at the site. The TCL and TAL are provided in Appendix E.

On October 27, 1987, FIT collected five on-site surface soil samples in the vicinity of the wastewater lagoons and one potential background surface soil sample from the north end of the property (see Figure 3-2 for soil sampling locations).

Soil Sampling Procedures. Surface soil samples S1 and S2 were collected from the northern dry lagoon. Two samples were taken from this lagoon because vegetation surrounding the lower perimeter of the lagoon was particularly stressed. Surface soil sample S3 was collected from the second, southern dry lagoon. Surface soil samples S4 and S5 were collected downgrade from the lagoon area, following the natural contours of the surface topography.

The locations of samples S4 and S5 were chosen to determine whether TCL compounds and/or TAL analytes had migrated from the lagoon area toward Forked Creek.

A potential background sample (indicated as S6) was collected from the large expanse of lawn on the northern boundary of the site. The location of S6 was chosen because the soil in this area appeared to be a



SOURCE:Ecology and Environment, Inc., 1988.

APPROXIMATE SCALE

0 200 400 600 800 1000 FEET

FIGURE 3-2 SOIL SAMPLING LOCATIONS

representation of the type of soil found at the site. The lawn where S6 was collected had not been treated in any way (Baskerville March 2, 1988).

Surface soil samples S1, S2, S3, S4, S5, and S6 were obtained by using garden trowels to dig to an approximate depth of 6 inches. Soil from the approximate 6-inch depth was transferred to stainless steel bowls with the trowels. After debris had been removed from the soil, the soil was transferred from the bowls to sample bottles, using spoons (Ecology and Environment, Inc. 1987).

Standard E & E decontamination procedures were adhered to during the collection of all soil samples. The procedures included the scrubbing of all equipment (e.g., trowels, bowls, and spoons) with a solution of detergent and distilled water, and triple rinsing the equipment with distilled water before the collection of each sample (Ecology and Environment, Inc. 1987). All soil samples were packaged and shipped in accordance with U.S. EPA-required procedures.

As directed by U.S. EPA, samples S1, S2, S3, S4, S5, and S6 were analyzed for TCL compounds by MetraTRACE Incorporated of Earth City, Missouri, and for TAL analytes by Enseco/Rocky Mountain Analytical of Arvada, Colorado.

4. ANALYTICAL RESULTS

4.1 INTRODUCTION

This section includes results of chemical analysis of FIT-collected soil samples for TCL compounds and TAL analytes.

4.2 RESULTS OF CHEMICAL ANALYSIS OF FIT-COLLECTED SAMPLES

Chemical analysis of FIT-collected soil samples revealed substances from the following groups of TCL compounds and TAL analytes: heavy metals, common laboratory artifacts (e.g., methylene chloride, acetone, and phthalates), and common soil constituents (see Table 4-1 for complete soil sample chemical analysis results). Laboratory analytical data of soil sample analysis are provided in Appendix E.

Table 4-1
RESULTS OF CHEMICAL ANALYSIS OF
FIT-COLLECTED SOIL SAMPLES

Sample Collection Information and Parameters	Sample Number S1	S2	S3	S4	S5	S6
Date	10/27/87	10/27/87	10/27/87	10/27/87	10/27/87	10/27/87
Time	1100	1130	1200	1230	1300	1330
Organic Traffic Report Number	EQ257	EQ258	EQ259	EQ260	EQ261	EQ262
Inorganic Traffic Report Number	MER596	MER597	MER598	MER599	MER200	MER201
Compound Detected (values in µg/kg)						
Volatile Organics						
methylene chloride	940	--	76	370	220	350
acetone	600	160	40	61	31	130
carbon disulfide	--	35	--	--	--	--
1,1,1-trichloroethane	--	9	--	--	--	--
toluene	17	130	16	30	23	12
Semivolatile Organics						
di-n-butylphthalate	4,800	--	13,000	37,000	54,000	71,000
butylbenzylphthalate	--	9,200	--	45,000	14,000	36,000
bis(2-ethylhexyl)phthalate	4,900	--	--	7,000	5,000	3,300J
Analyte Detected (values in mg/kg)						
aluminum	4,520	3,020	2,420	2,550	1,610	6,420
arsenic	--	4.1Bs	3.0Bs	3.8s	1.2BW	9.1
barium	40.7B	47.0B	52.0B	29.8B	22.5B	82.6
beryllium	--	--	--	--	--	0.44B

Table 4-1 (Cont.)

Sample Collection Information and Parameters	Sample Number S1	S2	S3	S4	S5	S6
Analyte Detected (values in mg/kg) (Continued)						
calcium	4,130B	1,330B	514B	1,790	731B	1,890
chromium	25.3	10.3	7.5	4.1	3.0	8.8
cobalt	--	--	--	--	--	6.8B
copper	556	161	112	7.5	13.0	10.8
iron	7,700	6,430	5,380	3,260	2,480	10,200
lead	38.9N	20.2N	9.8N	6.8N	6.8sN	12.3N
magnesium	2,160B	1,050B	557B	768B	341B	1,510
manganese	93.3	28.2	22.9	131	73.9	558
nickel	22.5B	7.9B	5.0B	3.7B	2.2B	7.9B
potassium	451BE	226BE	243BE	416BE	214BE	589BE
selenium	--	--	--	--	--	0.38BWN
vanadium	10.9BE	8.0BE	7.1BE	5.4BE	3.4BE	16.4E
zinc	500	147	55.0	44.8	17.0	28.1

-- Not detected.

Table 4-1 (Cont.)

COMPOUND QUALIFIERS	DEFINITION	INTERPRETATION
J	Indicates an estimated value.	Compound value may be semiquantitative.
B	This flag is used when the compound is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.	Compound value may be semiquantitative if it is <5x the blank concentration (<10x the blank concentrations for common laboratory artifacts: phthalates, methylene chloride, acetone, toluene, 2-butanone).

ANALYTE QUALIFIERS		DEFINITION	INTERPRETATION
OLD	NEW		
E	E	Estimated or not reported due to interference. See laboratory narrative.	Analyte or element was not detected, or value may be semiquantitative.
s	s	Analysis by Method of Standard Additions.	Value is quantitative.
R	N	Spike recoveries outside QC protocols, which indicates a possible matrix problem. Data may be biased high or low. See spike results and laboratory narrative.	Value may be quantitative or semi-quantitative.
[ ]	B	Value is real, but is above instrument DL and below CRDL.	Value may be quantitative or semi-quantitative.
	W	Post-digestion spike for furnace AA analysis is out of control limits (35-115%), while sample absorbance is <50% of spike absorbance.	Value may be semiquantitative.

Source: Ecology and Environment, Inc. 1988.

5. DISCUSSION OF MIGRATION PATHWAYS

5.1 INTRODUCTION

This section discusses data and information that apply to potential migration pathways and targets of TCL compounds and/or TAL analytes that may be attributable to the Diamond International Corporation site.

The five migration pathways of concern discussed are groundwater, surface water, air, fire and explosion, and direct contact.

5.2 GROUNDWATER

No groundwater samples were collected during the October 27, 1987 FIT site inspection of the Diamond International Corporation site.

There does exist a potential for TCL compounds and/or TAL analytes to migrate from the site to the groundwater in the vicinity of the site. This potential is based on the following information:

- TCL compounds and TAL analytes have been detected at the site.

- Surface soils are classified as Drummer silty clay loam and Proctor silt loam, consisting of mostly silt and clay with some sand. This surface soil is moderately permeable (Wascher 1962).

- The highest water-bearing unit in the area appears to be at approximately 30 feet to 100 feet and consists of Ft. Atkinson limestone of the Ordovician period. Above the

limestone there is approximately 30 feet of drift, including sand and gravel and some clay. The clay layers do not appear to be confining. Most wells drawing from water at this depth draw from the limestone, although water well logs indicate that some wells may be drawing from sand and gravel formations at approximately 30 feet (Illinois Department of Energy and Natural Resources; Illinois State Water Survey 1983).

- The second water-bearing unit appears to be at an approximate depth of 150 feet to 800 feet and consists of limestone and dolomite of the Galena and Platteville groups and sandstone, shale, and chert of the St. Peter sandstone group. All groups are of the Ordovician period. Above this aquifer and below the highest aquifer of Ft. Atkinson limestone, there is approximately 50 feet of shale. The 50 feet of shale sufficiently separates the two upper aquifers (Illinois Department of Energy and Natural Resources; Illinois State Water Survey 1983).

- The third water-bearing unit appears at approximately 1,500 feet and consists of sandstone of the Ironton-Galesville group of the Cambrian period. Above this aquifer are approximately 700 to 800 feet of dolomite and sandstone belonging to Cambrian and Ordovician periods (Illinois Department of Energy and Natural Resources; Illinois State Water Survey 1983).

- The city of Wilmington obtains its water from a municipal system using three wells. Well 1 is drilled to a depth of 710 feet and is screened in the St. Peter sandstone and Galena and Platteville limestone and dolomite. Well 2 is drilled to a depth of 1,566 feet and is screened in Ironton-Galesville sandstone. Well 3 is drilled to a depth of 1,578 feet and is also screened in Ironton-Galesville sandstone (see Appendix A for municipal well

locations). The Wilmington municipal water system serves a population of approximately 4,500 (Illinois Department of Energy and Natural Resources; Illinois State Water Survey 1983; Sanderson 1967; Wiley May 20, 1987).

- The aquifer of concern appears to be the uppermost sand and gravel and Ft. Atkinson limestone. The potential is greatest for TCL compounds and/or TAL analytes to migrate to this highest aquifer rather than to the deeper aquifers. The deeper aquifers appear to have a sufficient aquatard, and the potential for migration of TCL compounds and/or TAL analytes to these aquifers appears minimal. Water well logs within 3 miles of the site indicate that 109 private wells are drawing from this uppermost aquifer; 25 private wells within 3 miles are drawing from St. Peter sandstone. Limited information at this time makes it impossible to determine how many of the 109 private wells are still in use and how many of the properties have an alternate source of drinking water. These 109 private wells serve approximately 295 people. If these residences are now hooked up to a municipal system or if an alternate source of drinking water is available, then few residents would be drawing drinking water from the highest aquifer. In that case, the aquifer of concern would be the less vulnerable St. Peter sandstone and Galena and Platteville limestone and dolomite aquifer (Illinois Department of Energy and Natural Resources).

- The nearest well, which is upgradient and on-site, supplies drinking water. It is drilled to a depth of 758 feet and is screened in St. Peter sandstone (Baskerville March 2, 1988).

- PSI, Inc., A & H/Flood Engineering Division completed a soil exploration of the Diamond plant in June 1987. Stream and river locations and water levels from soil

borings taken by PSI, Inc. indicate that groundwater in the vicinity of the site moves southwest toward Forked Creek and the Kankakee River. The highest groundwater level in the area is approximately 3 to 7 feet (A & H 1987; USGS 1973).

- The lagoons on-site have a clay liner of an unknown depth (Arnett 1987). The integrity of the liner is unknown.

5.3 SURFACE WATER

No surface water samples were collected during the October 27, 1987 site inspection of Diamond International Corporation.

A potential does exist for substances from the site to reach Forked Creek via surface water runoff. This potential is based on the following information:

- TCL compounds and TAL analytes have been detected at the site.

- Forked Creek abuts the southern border of the site property. It is located approximately 1,381 feet south of the on-site building. Forked Creek flows into the Kankakee River approximately 1/2 mile southwest of the site. The Kankakee River flows to the north (USGS 1973).

- Surface topography on-site slopes towards Forked Creek. Surface runoff drains into Forked Creek (A & H 1987; USGS 1973).

- No surface water intakes are present within 4 miles of the site. However, the city of Wilmington intends to eventually draw municipal drinking water from the Kankakee River. The Kankakee is used for recreation (Wiley May 20, 1987).

- Water from the on-site lagoons was discharged into the Kankakee while Diamond International Corporation was operating at the site. Water was gravity fed into the Kankakee through underground pipes with an outfall line of 2,500 feet over a 3% grade. This drainage system was installed in 1974 and discontinued in 1987. According to site representatives, the discharge water was periodically tested before it entered the Kankakee River. Site representatives also stated that no copies of the analyses or permit information concerning discharge to the Kankakee River is available at this time (Baskerville May 25, 1988; Baskerville June 3, 1988).

5.4 AIR

A release of contaminants to the air or potential for such release was not documented during the SSI of the Diamond International Corporation site. During the reconnaissance inspection, FIT site-entry instruments (photo-ionization detector with an 11.7 lamp, oxygen meter, radiation monitor, explosimeter, colorimetric monitoring tubes for hydrogen cyanide) did not detect levels above background concentrations at the site (Ecology & Environment, Inc. 1987). In accordance with the U.S. EPA-approved work plan, further air monitoring was not conducted by FIT.

A potential does exist for windblown particulates to carry TCL compounds and/or TAL analytes from the site.

5.5 FIRE AND EXPLOSION

No fire and/or explosion threat was documented during the SSI of the Diamond International Corporation site. During the reconnaissance inspection, the FIT explosimeter readings did not detect levels above background (Ecology & Environment, Inc. 1987).

5.6 DIRECT CONTACT

According to federal, state, and local file information, and interviews with site representatives, there is no documentation of an

incident of direct contact with TCL compounds and/or TAL analytes at the Diamond International Corporation site.

Access to the site is characterized as follows:

- The site property is only partially fenced. According to site representatives, three security guards are employed by C.P. Inorganics. No security personnel were observed by the FIT during the SSI.

- The lagoon area on-site is securely fenced and locked.

- According to calculations using a USGS topographic map of the area, the population within a 1-mile radius of the site is approximately 2,776 persons.

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APPENDIX A

SITE 4-MILE RADIUS MAP

SDMS US EPA Region V

Imagery Insert Form

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4-MILE RADIUS MAP

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APPENDIX B

U.S. EPA FORM 2070-13

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IL	D980683197

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Diamond International Corporation	Peotone Road

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Wilmington	IL	60481	Will	197	17

09 COORDINATES	
LATITUDE	LONGITUDE
41°19'00".0	088°08'00".0

10 TYPE OF OWNERSHIP (Check one)
X A. PRIVATE ___B. FEDERAL _____ ___C. STATE ___D. COUNTY ___E. MUNICIPAL
___F. OTHER _____ ___G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION	02 SITE STATUS	03 YEARS OF OPERATION		
10/27/87	___ACTIVE	1955	1980	___UNKNOWN
MO/DAY/YR	X INACTIVE	BEGINNING YEAR	ENDING YEAR	

04 AGENCY PERFORMING INSPECTION (Check all that apply)
___A. EPA ___B. EPA CONTRACTOR Ecology and Environment, Inc. (Name of firm) ___C. MUNICIPAL ___D. MUNICIPAL CONTRACTOR
___E. STATE ___F. STATE CONTRACTOR _____ (Name of firm) ___G. OTHER _____ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
Melanie Nesterenko	Biologist	Ecology and Environment,Inc.	(312) 663-9415
09 OTHER INSPECTORS	**10 TITLE**	**11 ORGANIZATION**	**12 TELEPHONE NO.**
Kurt Sims	Earth Scientist	E & E, Inc.	(312) 663-9415
Tom O'Brien	Biologist	E & E, Inc.	(312) 663-9415
Kevin Lyons	Wildlife Specialist	E & E, Inc.	(312) 663-9415
Marilou Martin	Environmental Scientist	E & E, Inc.	(312) 663-9415
		E & E, Inc.	)312) 663-9415
13 SITE REPRESENTATIVES INTERVIEWED	**14 TITLE**	**15 ADDRESS**	**16 TELEPHONE NO.**
Ed Arnett	Controller	10 Industrial Avenue Joliet, IL	(815) 727-1077

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
X PERMISSION ___ WARRANT	10:30 a.m.	~50°F Sunny, clear

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Kevin Corkill	IEPA/RPMS	(815) 471-7951

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
Melanie Nesterenko	U.S. EPA	E & E, Inc.	(312) 663-9415	5/88

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IL	D980683197

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

___A. SOLID ___E. SLURRY
___B. POWDER, FINES _X_F. LIQUID
___C. SLUDGE ___G. GAS
___D. OTHER Unknown (Specify)

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS Unknown
CUBIC YARDS
NO. OF DRUMS

03 WASTE CHARACTERISTICS (Check all that apply)

_X_A. TOXIC ___E. SOLUBLE _X_I. HIGHLY VOLATILE
___B. CORROSIVE ___F. INFECTIOUS ___J. EXPLOSIVE
___C. RADIOACTIVE ___G. FLAMMABLE ___K. REACTIVE
_X_D. PERSISTENT ___H. IGNITABLE ___L. INCOMPATIBLE
___M. NOT APPLICABLE

III. WASTE TYPE Unknown

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
analyte	aluminum	7429-90-5	All these substances	6,420	ug/kg
analyte	arsenic	7440-38-2	were detected in samples	9.1	ug/kg
analyte	barium	7440-39-3	from dry wastewater	82.6	ug/kg
analyte	beryllium	7440-41-7	lagoons.	.44B	ug/kg
analyte	chromium			25.3	ug/kg
analyte	cobalt	7440-48-4		6.8B	ug/kg
analyte	copper	7440-50-8		556	ug/kg
analyte	lead	7439-92-1		38.9N	ug/kg
analyte	nickel	7440-02-0		22.5B	ug/kg
analyte	selenium	7782-49-2		.38BWN	ug/kg
analyte	vanadium	7440-62-2		16.4E	ug/kg
analyte	zinc	7440-66-6		500	ug/kg
ketone	acetone	67-64-1		600	ug/kg
sulfur hydrocarbon	carbon disulfide	75-15-0		35	ug/kg
halogenated hydrocarbon	1,1,1-trichloroethane	71-55-6		9	ug/kg
aromatic	toluene	108-88-3		130	ug/kg

V. FEEDSTOCKS (See Appendix for CAS Numbers) None

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

FIT files.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IL	D980683197

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 X A. GROUNDWATER CONTAMINATION — 02 ___ OBSERVED (DATE: _____) X POTENTIAL ___ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: 295 — 04 NARRATIVE DESCRIPTION

A potential exists for contaminants to migrate into the upper sand and gravel aquifer or the upper limestone aquifer in the area. Water is drawn from these formations at approximately 50 to 250 feet below the ground surface.

01 X B. SURFACE WATER CONTAMINATION — 02 ___ OBSERVED (DATE: _____) X POTENTIAL ___ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: 0 — 04 NARRATIVE DESCRIPTION

A potential exists for contamination on-site to migrate to Forked Creek and into the Kankakee River. Forked Creek borders the southern end of the site and enters the Kankakee River approximately 0.5 miles downstream from the site. Surface drainage on-site is toward Forked Creek which is located approximately 1,381 feet south of the on-site building.

01 ___ C. CONTAMINATION OF AIR — 02 ___ OBSERVED (DATE: _____) ___ POTENTIAL ___ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: 0 — 04 NARRATIVE DESCRIPTION

No potential or alleged air contamination threat has been documented at this site.

01 ___ D. FIRE/EXPLOSIVE CONDITIONS — 02 ___ OBSERVED (DATE: _____) ___ POTENTIAL ___ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: 0 — 04 NARRATIVE DESCRIPTION

No potential or alleged fire/explosive conditions have been documented at this site.

01 X E. DIRECT CONTACT — 02 ___ OBSERVED (DATE: _____) X POTENTIAL ___ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: 2,776 — 04 NARRATIVE DESCRIPTION

Because the site is easily accessible, the potential for contamination by direct contact exists. The lagoons where the wastewater was deposited are securely locked, but the potential exists for direct contact with the substances which have migrated outside of the lagoon area.

01 X F. CONTAMINATION OF SOIL — 02 ___ OBSERVED (DATE: _____) X POTENTIAL ___ ALLEGED

03 AREA POTENTIALLY AFFECTED: Unknown (Acres) — 04 NARRATIVE DESCRIPTION

A potential exists for the migration of substances away from the secured lagoon area into the surrounding soil.

01 X G. DRINKING WATER CONTAMINATION — 02 ___ OBSERVED (DATE: _____) X POTENTIAL ___ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: 295 — 04 NARRATIVE DESCRIPTION

A potential exists for contaminants to migrate into the upper sand and gravel aquifer or limestone aquifer in the area. Private wells are drilled into these formations at approximately 50 to 250 feet.

01 X H. WORKER EXPOSURE/INJURY — 02 ___ OBSERVED (DATE: _____) X POTENTIAL ___ ALLEGED

03 WORKERS POTENTIALLY AFFECTED: 9 — 04 NARRATIVE DESCRIPTION

A potential exists for the employees at the site to come into direct contact with the substances on-site.

01 X I. POPULATION EXPOSURE/INJURY — 02 ___ OBSERVED (DATE: _____) X POTENTIAL ___ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: 2,776 — 04 NARRATIVE DESCRIPTION

A potential exists for the population surrounding the site to come into direct contact with the contamination on-site. The population within a 1-mile radius of the site is 2,776.

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: IL | 02 SITE NUMBER: D980683197

II. HAZARDOUS CONDITIONS AND INCIDENTS (CONTINUED)

01 X J. DAMAGE TO FLORA — 02 ___ OBSERVED (DATE: _____) X POTENTIAL ___ ALLEGED

04 NARRATIVE DESCRIPTION

A potential for damage to flora exists at this site. During the SSI, FIT observed areas of stressed vegetation around the lower perimeter of the evaporated lagoons.

01 X K. DAMAGE TO FAUNA — 02 ___ OBSERVED (DATE: _____) X POTENTIAL ___ ALLEGED

04 NARRATIVE DESCRIPTION (Include name(s) of species)

A potential exists for damage to fauna. A deer was observed on-site during the FIT SSI. Fauna may come into direct contact with substances on-site.

01 ___ L. CONTAMINATION OF FOOD CHAIN — 02 ___ OBSERVED (DATE: _____) ___ POTENTIAL ___ ALLEGED

04 NARRATIVE DESCRIPTION

No potential or alleged contamination of the food chain has been documented at this site.

01 ___ M. UNSTABLE CONTAINMENT OF WASTES — 02 ___ OBSERVED (DATE: _____) ___ POTENTIAL ___ ALLEGED

(Spills/runoff/standing liquids/leaking drums)

03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

No unstable containment of wastes has been documented at this site.

01 ___ N. DAMAGE TO OFFSITE PROPERTY — 02 ___ OBSERVED (DATE: _____) ___ POTENTIAL ___ ALLEGED

04 NARRATIVE DESCRIPTION

No damage to off-site property has been documented at this site.

01 ___ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ___ OBSERVED (DATE: _____) ___ POTENTIAL ___ ALLEGED

04 NARRATIVE DESCRIPTION

No potential or alleged contamination of sewers, storm drains, or WWTPs has been documented at this site.

01 ___ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ___ OBSERVED (DATE: _____) ___ POTENTIAL ___ ALLEGED

04 NARRATIVE DESCRIPTION

No unauthorized dumping has been documented at this site.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

None

III. TOTAL POPULATION POTENTIALLY AFFECTED: 3,080

IV. COMMENTS

None

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

FIT files.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IL	D980683197

II. PERMIT INFORMATION None - site is not currently in operation.

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
___A. NPDES				
___B. UIC				
___C. AIR				
___D. RCRA				
___E. RCRA INTERIM STATUS				
___F. SPCC PLAN				
___G. STATE (Specify)				
___H. LOCAL (Specify)				
___I. OTHER (Specify)				
___J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
___A. SURFACE IMPOUNDMENT		
___B. PILES		
___C. DRUMS, ABOVE GROUND		
___D. TANK, ABOVE GROUND		
___E. TANK, BELOW GROUND		
___F. LANDFILL		
___G. LANDFARM		
___H. OPEN DUMP		
_X_I. OTHER Lagoon (Specify)	Unknown	

04 TREATMENT (Check all that apply)
- ___A. INCINERATION
- ___B. UNDERGROUND INJECTION
- ___C. CHEMICAL/PHYSICAL
- ___D. BIOLOGICAL
- ___E. WASTE OIL PROCESSING
- ___F. SOLVENT RECOVERY
- ___G. OTHER RECYCLING/RECOVERY
- _X_H. OTHER Filtration (Specify)

05 Other
- _X_A. BUILDINGS ON SITE 2

06 AREA OF SITE
51 (Acres)

07 COMMENTS
None

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)
_X_A. ADEQUATE, SECURE ___B. MODERATE ___C. INADEQUATE, POOR ___D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.
Wastewater from the papermaking process was deposited in lagoons that have clay liners. The water from the lagoons was pumped to the Kankakee River when the lagoons were full.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ___YES _X_NO
02 COMMENTS
The lagoon area is securely fenced. Any access to the substances in the lagoon would be as a result of migration off-site via overflow.

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)
FIT files.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IL	D980683197

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)

	SURFACE	WELL
COMMUNITY	A. ___	B. X
NON-COMMUNITY	C. ___	D. X

02 STATUS Unknown

ENDANGERED	AFFECTED	MONITORED
A. ___	B. ___	C. X
D. ___	E. ___	F. ___

03 DISTANCE TO SITE

A. 0.5 (mi)
B. Adjacent (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

X A. ONLY SOURCE FOR DRINKING
___ B. DRINKING (Other sources available)
___ C. COMMERCIAL, INDUSTRIAL IRRIGATION (Limited other sources available)
___ D. NOT USED, UNUSEABLE

COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available)

02 POPULATION SERVED BY GROUND WATER 295

03 DISTANCE TO NEAREST DRINKING WATER WELL On-site (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
3 to 7 (ft)	Southwest	30 (ft)	Unknown (gpd)	___ YES X NO

09 DESCRIPTION OF WELLS (Including usage, depth, and location relative to population and buildings)

There are approximately 109 wells in the vicinity of the site which draw from the shallow sand and gravel limestone aquifer.

10 RECHARGE AREA		11 DISCHARGE AREA	
___ YES ___ NO	COMMENTS Groundwater in the area is most likely recharged by precipitation.	___ YES ___ NO	COMMENTS Groundwater in the area discharges into the Kankakee River.

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

X A. RESERVOIR, RECREATION DRINKING WATER SOURCE
___ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES
___ C. COMMERCIAL, INDUSTRIAL
___ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Forked Creek	___	Adjacent (mi)
Kankakee River	___	0.5 (mi)
	___	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. 2,776	B. 5,390	C. 6,613
NO. OF PERSONS	NO. OF PERSONS	NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION

Adjacent (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE

1,989

04 DISTANCE TO NEAREST OFF-SITE BUILDING

Adjacent (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)

The land in the vicinity of the site is primarily rural with scattered industries nearby. The population within 1 mile of the site is approximately 2,776.

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IL	D980683197

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

___A. 10^{-6} - 10^{-8} cm/sec X B. 10^{-4} - 10^{-6} cm/sec ___C. 10^{-4} - 10^{-3} cm/sec ___D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

___A. IMPERMEABLE (Less than 10^{-6} cm/sec) X B. RELATIVELY IMPERMEABLE (10^{-4} - 10^{-6} cm/sec) ___C. RELATIVELY PERMEABLE (10^{-2} - 10^{-4} cm/sec) ___D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH	
Unknown (ft)	Unknown (ft)	Unknown	

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
2 inches (in)	2.5 (in)	0.3 %	Southwest	0.3 %

09 FLOOD POTENTIAL
SITE IS IN Unknown YEAR FLOOD PLAN

10
___ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY
Unknown

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE	OTHER
A. N/A (mi)	B. <3 (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)
<3 (mi)
ENDANGERED SPECIES: None

13 LAND USE IN VICINITY
DISTANCE TO:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS PRIME AG LAND	AG LAND
A. Adjacent (mi)	B. Adjacent (mi)	C. Unknown (mi)	D. ~0.5 (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY
See Appendix A.

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

FIT files.
U.S. Geological Survey, 1973, Wilmington Quadrangle, Illinois, 7.5 minute series: 1:24,000.

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IL	D0980683197

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER			
SURFACE WATER			
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL	6	TCL compounds: MetaTRACE Incorporated, Earth City, MO TAL analytes: Enseco/Rocky Mountain Analytical, Arvada, CO	
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
(11.7 Lamp) Photo-ionization detector (PID)	The background breathing zone reading was 0.9ppm; the on-site breathing zone reading was 0.9 ppm.
Radiation monitor	The background reading was 0.02 mR/HR; the on-site reading was 0.02 mR/HR
Explosimeter	0% explosive atmosphere
Oxygen meter	The background reading was 21% oxygen; the on-site reading was 21% oxygen.
Colorimetric monitoring tubes: HCN monitor	No reading was detected.

IV. PHOTOGRAPHS AND MAPS

01 TYPE X GROUND ___ AERIAL

02 IN CUSTODY OF Ecology and Environment, Inc.
(Name of organization or individual)

03 MAPS
X YES
___ NO

04 LOCATION OF MAPS
FIT files - Chicago

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

None

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

FIT files

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION	
01 STATE: IL	02 SITE NUMBER: D980683197

II. CURRENT OWNER(S)				PARENT COMPANY (If applicable)			
01 NAME: C.P. Inorganics		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. BOX, RFD #, ETC.): 10 Industrial Avenue		04 SIC CODE		10 STREET ADDRESS (P.O. BOX, RFD #, ETC.)		11 SIC CODE	
05 CITY: Joliet	06 STATE: IL	07 ZIP CODE: 60435		12 CITY	13 STATE	14 ZIP CODE	
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. BOX, RFD #, ETC.)		04 SIC CODE		10 STREET ADDRESS (P.O. BOX, RFD #, ETC.)		11 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		12 CITY	13 STATE	14 ZIP CODE	
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. BOX, RFD #, ETC.)		04 SIC CODE		10 STREET ADDRESS (P.O. BOX, RFD #, ETC.)		11 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		12 CITY	13 STATE	14 ZIP CODE	

III. PREVIOUS OWNER(S) (List most recent first)				IV. REALTY OWNER(S) (If applicable; list most recent first)			
01 NAME: Diamond International Corporation		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.): Unknown		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	
05 CITY: Norwalk	06 STATE: CT	07 ZIP CODE		05 CITY	06 STATE	07 ZIP CODE	
01 NAME: Sulfide Division of Johnson & Johnson		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.): Unknown		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		05 CITY	06 STATE	07 ZIP CODE	
01 NAME: Stonebridge Paper Company (Art Leopold)		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.): Peotone Road		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	
05 CITY: Wilmington	06 STATE: IL	07 ZIP CODE		05 CITY	06 STATE	07 ZIP CODE	

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

FIT files.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IL	D980683197

II. CURRENT OPERATOR (Provide if different from owner)				OPERATOR'S PARENT COMPANY (If applicable)			
01 NAME Same as owner		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. BOX, RFD #, ETC.)		04 SIC CODE		12 STREET ADDRESS (P.O. BOX, RFD #, ETC.)		13 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		14 CITY	15 STATE	16 ZIP CODE	
08 YEARS OF OPERATION	09 NAME OF OWNER						

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)				PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)			
01 NAME N/A		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		14 CITY	15 STATE	16 ZIP CODE	
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD						
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		14 CITY	15 STATE	16 ZIP CODE	
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD						
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		14 CITY	15 STATE	16 ZIP CODE	
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD						

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

FIT files.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION	
01 STATE: IL	02 SITE NUMBER: D980683197

II. ON-SITE GENERATOR Not applicable.

01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. BOX, RFD #, ETC.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE

III. OFF-SITE GENERATOR(S) Not applicable.

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

IV. TRANSPORTER(S) Not applicable.

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

IT files.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE IL	02 SITE NUMBER D980683197

II. PAST RESPONSE ACTIVITIES There were no documented response activities at this site.

01 ___A. WATER SUPPLY CLOSED 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
N/A

01 ___B. TEMPORARY WATER SUPPLY PROVIDED 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
N/A

01 ___C. PERMANENT WATER SUPPLY PROVIDED 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
N/A

01 ___D. SPILLED MATERIAL REMOVED 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
N/A

01 ___E. CONTAMINATED SOIL REMOVED 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
N/A

01 ___F. WASTE REPACKAGED 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
N/A

01 ___G. WASTE DISPOSED ELSEWHERE 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
N/A

01 ___H. ON SITE BURIAL 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
N/A

01 ___I. IN SITU CHEMICAL TREATMENT 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
N/A

01 ___J. IN SITU BIOLOGICAL TREATMENT 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
N/A

01 ___K. IN SITU PHYSICAL TREATMENT 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
N/A

01 ___L. ENCAPSULATION 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
N/A

01 ___M. EMERGENCY WASTE TREATMENT 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
N/A

01 ___N. CUTOFF WALLS 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
N/A

01 ___O. EMERGENCY DIKING/SURFACE WATER DIVERSION 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
N/A

01 ___P. CUTOFF TRENCHES/SUMP 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
N/A

01 ___Q. SUBSURFACE CUTOFF WALL 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
N/A

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IL	D980683197

II. PAST RESPONSE ACTIVITIES (Continued)

01 ___R. BARRIER WALLS CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____

04 DESCRIPTION
N/A

01 ___S. CAPPING/COVERING — 02 DATE _____ — 03 AGENCY _____

04 DESCRIPTION
N/A

01 ___T. BULK TANKAGE REPAIRED — 02 DATE _____ — 03 AGENCY _____

04 DESCRIPTION
N/A

01 ___U. GROUT CURTAIN CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____

04 DESCRIPTION
N/A

01 ___V. BOTTOM SEALED — 02 DATE _____ — 03 AGENCY _____

04 DESCRIPTION
N/A

01 ___W. GAS CONTROL — 02 DATE _____ — 03 AGENCY _____

04 DESCRIPTION
N/A

01 ___X. FIRE CONTROL — 02 DATE _____ — 03 AGENCY _____

04 DESCRIPTION
N/A

01 ___Y. LEACHATE TREATMENT — 02 DATE _____ — 03 AGENCY _____

04 DESCRIPTION
N/A

01 ___Z. AREA EVACUATED — 02 DATE _____ — 03 AGENCY _____

04 DESCRIPTION
N/A

___1. ACCESS TO SITE RESTRICTED — 02 DATE _____ — 03 AGENCY _____

04 DESCRIPTION
N/A

___2. POPULATION RELOCATED — 02 DATE _____ — 03 AGENCY _____

04 DESCRIPTION
N/A

___3. OTHER REMEDIAL ACTIVITIES — 02 DATE _____ — 03 AGENCY _____

04 DESCRIPTION
No remedial activities were performed.

II. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

IT files.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IL	D980683197

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ___YES _X_NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

No regulatory/enforcement actions were taken.

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

FIT files.

APPENDIX C

U.S. EPA
IMMEDIATE REMOVAL ACTION
CHECKSHEET

Immediate Removal Action Check Sheet

	High	Moderate	Low
Fire and Explosion Hazard			
Flammable Materials N/A			
Explosives N/A			
Incompatable Chemicals N/A			
Direct Contact with Acutely Toxic Chemicals			
Site Security #1		X	
Leaking Drums or Tanks N/A			
Open Lagoons or Pits #2		X	
Materials on Surface #3		X	
Proximity of Population #4			X
Evidence of Casual Site Use #5			X
Contaminated Water Supply			
Exceeds 10 Day Snarl N/A			
Gross Taste or Odors N/A			
Alternate Water Available N/A			
Potential Contamination #6		X	
Is the site abandoned, active, or inactive?			

Comments:

1. SITE IS NOT WHOLLY FENCED OR RESTRICTED
2. LAGOON AREA IS FENCED AND LOCKED.
3. TCL COMPOUNDS AND TAL ANALYTES DETECTED IN SOIL SAMPLES.
4. SITE NEIGHBORS ARE WITHIN 0.5 MILE.
5. NO DOCUMENTED OR OBSERVED EVIDENCE OF CASUAL SITE USE, BUT PROPERTY IS NOT ENTIRELY RESTRICTED.
6. TCL COMPOUNDS AND TAL ANALYTES DETECTED IN SOIL SAMPLES.

APPENDIX D

FIT SITE PHOTOGRAPHS

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: DIAMOND INTERNATIONAL CORPORATION PAGE 1 OF 10

U.S. EPA ID: ILD980683197 TDD: F05-8709-003 PAN: FIL0529SA

DATE: 10/27/87

TIME: 1100

DIRECTION OF PHOTOGRAPH: Northwest

WEATHER CONDITIONS: ~50°F

Sunny, clear

PHOTOGRAPHED BY: M. Nesterenko

SAMPLE ID (if applicable): S1

DESCRIPTION: Soil sample S1, collected at lagoon #1.

DATE: 10/27/87

TIME: 1100

DIRECTION OF PHOTOGRAPH: Northwest

WEATHER CONDITIONS: ~50°F

Sunny, clear

PHOTOGRAPHED BY: M. Nesterenko

SAMPLE ID (if applicable): S1

DESCRIPTION: Perspective photograph of soil sample S1, collected at lagoon #1.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: DIAMOND INTERNATIONAL CORPORATION PAGE 2 OF 10

U.S. EPA ID: ILD980683197 TDD: F05-8709-003 PAN: FIL0529SA

DATE: 10/27/87

TIME: 1130

DIRECTION OF PHOTOGRAPH: South

WEATHER CONDITIONS: ~50°F

Sunny, clear

PHOTOGRAPHED BY: M. Nesterenko

SAMPLE ID (if applicable): S2

DESCRIPTION: Soil sample S2, collected at lagoon #1.

DATE: 10/27/87

TIME: 1130

DIRECTION OF PHOTOGRAPH: South

WEATHER CONDITIONS: ~50°F

Sunny, clear

PHOTOGRAPHED BY: M. Nesterenko

SAMPLE ID (if applicable): S2

DESCRIPTION: Perspective photograph of soil sample S2, collected at lagoon #1.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: DIAMOND INTERNATIONAL CORPORATION PAGE 3 OF 10

U.S. EPA ID: ILD980683197 TDD: F05-8709-003 PAN: FIL0529SA

DATE: 10/27/87

TIME: 1200

DIRECTION OF PHOTOGRAPH: South

WEATHER CONDITIONS: ~50°F

Sunny, clear

PHOTOGRAPHED BY: M. Nesterenko

SAMPLE ID (if applicable): S3

DESCRIPTION: Soil sample S3, collected at lagoon #2.

DATE: 10/27/87

TIME: 1200

DIRECTION OF PHOTOGRAPH: South

WEATHER CONDITIONS: ~50°F

Sunny, clear

PHOTOGRAPHED BY: M. Nesterenko

SAMPLE ID (if applicable): S3

DESCRIPTION: Perspective photograph of soil sample S3, collected at lagoon #2.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: DIAMOND INTERNATIONAL CORPORATION PAGE 4 OF 10

U.S. EPA ID: ILD980683197 TDD: F05-8709-003 PAN: FIL0529SA

DATE: 10/27/87

TIME: 1230

DIRECTION OF PHOTOGRAPH: South

WEATHER CONDITIONS: ~50°F

Sunny, clear

PHOTOGRAPHED BY: M. Nesterenko

SAMPLE ID (if applicable): S4

DESCRIPTION: Soil sample S4, collected downgrade of the settling lagoon area.

DATE: 10/27/87

TIME: 1230

DIRECTION OF PHOTOGRAPH: South

WEATHER CONDITIONS: ~50°F

Sunny, clear

PHOTOGRAPHED BY: M. Nesterenko

SAMPLE ID (if applicable): S4

DESCRIPTION: Perspective photograph of soil sample S4.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: DIAMOND INTERNATIONAL CORPORATION PAGE 5 OF 10

U.S. EPA ID: ILD980683197 TDD: F05-8709-003 PAN: FIL0529SA

DATE: 10/27/87

TIME: 1300

DIRECTION OF PHOTOGRAPH: South

WEATHER CONDITIONS: ~50°F

Sunny, clear

PHOTOGRAPHED BY: M. Nesterenko

SAMPLE ID (if applicable): S5

DESCRIPTION: Soil sample S5, collected south of the settling lagoon area.

DATE: 10/27/87

TIME: 1300

DIRECTION OF PHOTOGRAPH: South

WEATHER CONDITIONS: ~50°F

Sunny, clear

PHOTOGRAPHED BY: M. Nesterenko

SAMPLE ID (if applicable): S5

DESCRIPTION: Perspective photograph of soil sample S5.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: DIAMOND INTERNATIONAL CORPORATION PAGE 6 OF 10

U.S. EPA ID: ILD980683197 TDD: F05-8709-003 PAN: FIL0529SA

DATE: 10/27/87

TIME: 1420

DIRECTION OF PHOTOGRAPH: North

WEATHER CONDITIONS: ~50°F

Sunny, clear

PHOTOGRAPHED BY: M. Nesterenko

SAMPLE ID (if applicable): S6

DESCRIPTION: Soil sample S6, potential background sample.

DATE: 10/27/87

TIME: 1420

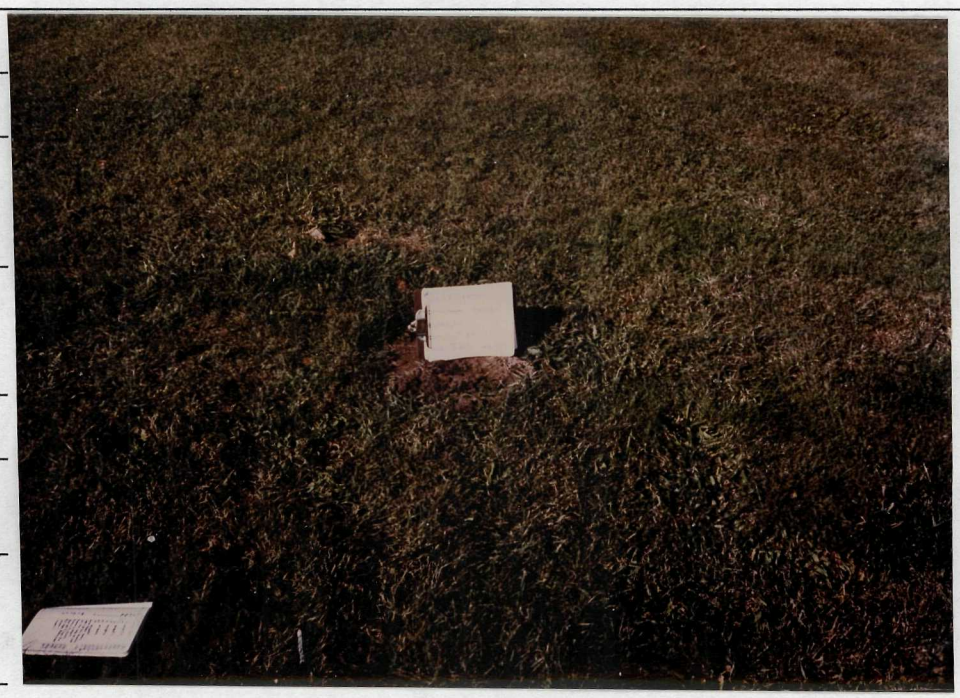
DIRECTION OF PHOTOGRAPH: North

WEATHER CONDITIONS: ~50°F

Sunny, clear

PHOTOGRAPHED BY: M. Nesterenko

SAMPLE ID (if applicable): S6



DESCRIPTION: Soil sample S6 perspective, potential background sample.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: DIAMOND INTERNATIONAL CORPORATION PAGE 7 OF 10

U.S. EPA ID: ILD980683197 TDD: F05-8709-003 PAN: FIL0529SA

DATE: 10/27/87

TIME: 1330

DIRECTION OF PHOTOGRAPH: East-northeast

WEATHER CONDITIONS: ~50°F

Sunny, clear

PHOTOGRAPHED BY: M. Nesterenko

SAMPLE ID (if applicable): N/A

DESCRIPTION: Photograph taken from bridge over Forked Creek, showing southern perimeter of property, old fence boundaries, and Forked Creek.

DATE: 10/27/87

TIME: 1332

DIRECTION OF PHOTOGRAPH: North

WEATHER CONDITIONS: ~50°F

Sunny, clear

PHOTOGRAPHED BY: M. Nesterenko

SAMPLE ID (if applicable): N/A

DESCRIPTION: Panorama of property, showing fenced lagoon area and on-site building.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: DIAMOND INTERNATIONAL CORPORATION PAGE 8 OF 10

U.S. EPA ID: ILD980683197 TDD: F05-8709-003 PAN: FIL0529SA

DATE: 10/27/87

TIME: 1350

DIRECTION OF PHOTOGRAPH: West

WEATHER CONDITIONS: ~50°F

Sunny, clear

PHOTOGRAPHED BY: M. Nesterenko

SAMPLE ID (if applicable): N/A

DESCRIPTION: Photograph showing fence and gate into lagoon area.

DATE: 10/27/87

TIME: 1400

DIRECTION OF PHOTOGRAPH: North

WEATHER CONDITIONS: ~50°F

Sunny, clear

PHOTOGRAPHED BY: M. Nesterenko

SAMPLE ID (if applicable): N/A

DESCRIPTION: Photograph showing lagoon with water and on-site building.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: DIAMOND INTERNATIONAL CORPORATION PAGE 9 OF 10

U.S. EPA ID: ILD980683197 TDD: F05-8709-003 PAN: FIL0529SA

DATE: 10/27/87

TIME: 1402

DIRECTION OF PHOTOGRAPH: West

WEATHER CONDITIONS: ~50°F

Sunny, clear

PHOTOGRAPHED BY: M. Nesterenko

SAMPLE ID (if applicable): N/A

DESCRIPTION: Lagoon #1.

DATE: 10/27/87

TIME: 1403

DIRECTION OF PHOTOGRAPH: West

WEATHER CONDITIONS: ~50°F

Sunny, clear

PHOTOGRAPHED BY: M. Nesterenko

SAMPLE ID (if applicable): N/A

DESCRIPTION: Lagoon #2.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: DIAMOND INTERNATIONAL CORPORATION PAGE 10 OF 10

U.S. EPA ID: ILD980683197 TDD: F05-8709-003 PAN: FIL0529SA

DATE: 10/27/87

TIME: 1340

DIRECTION OF PHOTOGRAPH: Northwest

WEATHER CONDITIONS: ~50°F

Sunny, clear

PHOTOGRAPHED BY: M. Nesterenko

SAMPLE ID (if applicable): N/A

DESCRIPTION: Lightly wooded area where a deer was sighted.

DATE: 10/27/87

TIME: 1445

DIRECTION OF PHOTOGRAPH: North

WEATHER CONDITIONS: ~50°F

Sunny, clear

PHOTOGRAPHED BY: M. Nesterenko

SAMPLE ID (if applicable): N/A

DESCRIPTION: Front lawn of facility/northern property boundary.

APPENDIX E

CHEMICAL ANALYSIS DATA
OF
FIT-COLLECTED SAMPLES

APPENDIX E

CHEMICAL ANALYSIS DATA
OF
FIT-COLLECTED SAMPLES

ecology and environment, inc.

111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9415

International Specialists in the Environment

CRL Receipt Date 12-3-87 FIT Receipt Date 1-7-88 Review Completed 1-8-88

TO: Melanie Westerenko

FROM: James Mertes

SUBJECT: Diamond International

PAN: IL0529 (1 hour charged for review) Case # 8358

Sample Description

Organics (VOA, ABN, Pest/PCB)		Inorganics (Metals, Cyanide)	
# _____	Low Soil	# 6	Low Soil
_____	Low Water	_____	Low Water
_____	Drinking Water	_____	Drinking Water
_____	Other	_____	Other

Project Data Status _____ Completed!!

X Incomplete, awaiting low soil organics

FIT Data Review Findings:

Check Data Sheets for Transcription Errors

X Compounds were detected in sample(s); see enclosed sheet.

Book No. 7 Page No. 75 Date Sampled 10-27-87

ecology and environment, inc.
CHICAGO, ILLINOIS

CHEMICAL EVALUATION FORM

SITE NAME: Diamond International PAN# IL0529 SA DATE: 1-8-88

CASE # 8358 UNITS: mg/kg (ppm) REVIEWER: J.M.

TOXI PERS	COMPOUND	CRDL	3-5xCRDL	MER 200	201	596	597	598	599	
	ALUMINUM			1610	4420	4520	3020	2420	2250	
	ANTIMONY									
	ARSENIC			1.2 BW	9.1	~~40.7B~~ 2.7BW	4.1BS	3.0BS	3.8 S	
	BARIUM			22.5 B	82.6	40.7B	47.0B	52.0B	29.8 B	
	BERYLLIUM				.44B					
	CADMIUM									
	CHROMIUM			3.0	8.8	25.3	10.3	7.5	4.1	
	COBALT				6.8B					
	COPPER			13.0	10.8	556	161	112	7.5	
	LEAD			6.8 SN	12.3 N	38.9N	20.2N	9.8N	6.8N	
	MERCURY									
	NICKEL			2.2 B	7.9 B	22.5B	7.9B	5.0B	3.7B	
	SELENIUM				.38 BWN					
	SILVER									
	THALLIUM									
	TIN									
	VANADIUM			3.4BE	16.4E	10.9BE	8.0BE	7.1BE	5.4BE	
	ZINC			17.0	28.1	500	147	55.0	44.8	
	CYANIDE									

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE:

SUBJECT: Review of Region V CLP Data
Received for Review on 12-3-87

FROM: Curtis Ross, Director (5SCRL)
Central Regional Laboratory

TO: Data User: FIT

We have reviewed the data for the following case(s).

SITE NAME: DIAMOND INTERNATIONAL SMO case No. 8358

EPA Data Set No. SF 4568 No. of Samples: 6 D.U./Activity Numbers Y905 / C72100

CRL No. 88FN04544 - 549

SMO Traffic No. MER596 - 599, 200, 201

CLP Laboratory: RMAL Hrs. Required for Review: 4

Following are our findings:

This review covers six low soil samples analyzed for metals and cyanide.

The matrix spike recovery for Sb(56.8%) and Se(72.7%) indicate a low bias and the detection limits may be elevated(UJ). The matrix spike recovery for Pb(48.8%) indicates a low bias and the data are estimated(J). The matrix spike recovery for Tl(419.3%) indicates a high bias and the data are acceptable.

Serial dilution for K(11.6%) and V(16.7%) indicate interference and the results are estimated(J).

All QC data for Hg and CN are acceptable.

Winston Nyyesawarapu
12-31-87

( ) Data are acceptable for use.
(X) Data are acceptable for use with qualifications noted above.
( ) Data are preliminary - pending verification by Contractor Laboratory.
( ) Data are unacceptable.

cc: Duane Geuder, Quality Assurance Officer, EPA Support Services
James Petty, Chief Quality Assurance Research, EMSL, Las Vegas

U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8358 SAS No.: _____ SDG No.: MER200

SOW No.: 7/87

EPA Sample No.	Lab Sample ID.
MER200	
MER200D	
MER200S	
MER201	
MER596	
MER597	
MER598	
MER599	

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:

6 LOW SOILS FOR TOTAL METALS AND CYANIDE ANALYSIS
INTERFERENCE ON SERIAL DILUTION NOTED FOR POTASSIUM AND VANADIUM
INTERFERENCE SUSPECTED FOR THALLIUM IN SAMPLE MER200
RMA QC# 87372

Release of the data contained in this hardcopy data package and in the computer readable data submitted on floppy diskette have been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Lab Manager: _____

Date: 12/18/87

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MER200

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8358 SAS No.: _____ SDG No.: MER200

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Recieved: 10/28/87

% Solids: 92.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1610			P
7440-36-0	Antimony	6.7	U	N	P
7440-38-2	Arsenic	1.2	B	W	F
7440-39-3	Barium	22.5	B		P
7440-41-7	Beryllium	0.22	U		P
7440-43-9	Cadmium	1.1	U		P
7440-70-2	Calcium	731	B		P
7440-47-3	Chromium	3.0			P
7440-48-4	Cobalt	1.3	U		P
7440-50-8	Copper	13.0			P
7439-89-6	Iron	2480			P
7439-92-1	Lead	6.8		SN	F
7439-95-4	Magnesium	341	B		P
7439-96-5	Manganese	73.9			P
7439-97-6	Mercury	0.11	U		CV
7440-02-0	Nickel	2.2	B		P
7440-09-7	Potassium	214	B	E	P
7482-49-2	Selenium	0.22	U	N	F
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	326	U		P
7440-28-0	Thallium	2.2	U	EN	F
7440-62-2	Vanadium	3.4	B	E	P
7440-66-6	Zinc	17.0			P
	Cyanide	0.54	U		AS

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

THALLIUM VALUE REPORTED AT ADDITIONAL 5X DILUTION

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MER201

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8358 SAS No.: _____ SDG No.: MER200

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Recieved: 10/28/87

% Solids: 84.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6420			P
7440-36-0	Antimony	7.4	U	N	P
7440-38-2	Arsenic	9.1			F
7440-39-3	Barium	82.6			P
7440-41-7	Beryllium	0.44	B		P
7440-43-9	Cadmium	1.2	U		P
7440-70-2	Calcium	1890			P
7440-47-3	Chromium	8.8			P
7440-48-4	Cobalt	6.8	B		P
7440-50-8	Copper	10.8			P
7439-89-6	Iron	10200			P
7439-92-1	Lead	12.3		N	F
7439-95-4	Magnesium	1510			P
7439-96-5	Manganese	558			P
7439-97-6	Mercury	0.12	U		CV
7440-02-0	Nickel	7.9	B		P
7440-09-7	Potassium	589	B	E	P
7482-49-2	Selenium	0.38	B	WN	F
7440-22-4	Silver	1.2	U		P
7440-23-5	Sodium	356	U		P
7440-28-0	Thallium	0.47	U	N	F
7440-62-2	Vanadium	16.4		E	P
7440-66-6	Zinc	28.1			P
	Cyanide	0.59	U		AS

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MER596

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8358 SAS No.: _____ SDG No.: MER200

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Recieved: 10/28/87

% Solids: 30.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4520			P
7440-36-0	Antimony	20.6	U	N	P
7440-38-2	Arsenic	2.7	U	W	F
7440-39-3	Barium	40.7	B		P
7440-41-7	Beryllium	0.66	U		P
7440-43-9	Cadmium	3.3	U		P
7440-70-2	Calcium	4130	B		P
7440-47-3	Chromium	25.3			P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	556			P
7439-89-6	Iron	7700			P
7439-92-1	Lead	38.9		N	F
7439-95-4	Magnesium	2160	B		P
7439-96-5	Manganese	93.3			P
7439-97-6	Mercury	0.33	U		CV
7440-02-0	Nickel	22.5	B		P
7440-09-7	Potassium	451	B	E	P
7482-49-2	Selenium	0.66	U	N	F
7440-22-4	Silver	3.3	U		P
7440-23-5	Sodium	997	U		P
7440-28-0	Thallium	1.3	U	WN	F
7440-62-2	Vanadium	10.9	B	E	P
7440-66-6	Zinc	500			P
	Cyanide	1.7	U		AS

Color Before: GREY Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

FORM I - IN 7/87

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MER597

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8358 SAS No.: _____ SDG No.: MER200

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Recieved: 10/28/87

% Solids: 68.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3020			P
7440-36-0	Antimony	9.1	U	N	P
7440-38-2	Arsenic	4.1	B	S	F
7440-39-3	Barium	47.0	B		P
7440-41-7	Beryllium	0.29	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	1330	B		P
7440-47-3	Chromium	10.3			P
7440-48-4	Cobalt	1.8	U		P
7440-50-8	Copper	161			P
7439-89-6	Iron	6430			P
7439-92-1	Lead	20.2		N	F
7439-95-4	Magnesium	1050	B		P
7439-96-5	Manganese	28.2			P
7439-97-6	Mercury	0.15	U		CV
7440-02-0	Nickel	7.9	B		P
7440-09-7	Potassium	226	B	E	P
7482-49-2	Selenium	0.29	U	N	F
7440-22-4	Silver	1.5	U		P
7440-23-5	Sodium	439	U		P
7440-28-0	Thallium	0.59	U	WN	F
7440-62-2	Vanadium	8.0	B	E	P
7440-66-6	Zinc	147			P
	Cyanide	0.73	U		AS

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

ARSENIC VALUE IS DETERMINED BY MSA

U.S. EPA - CLP

000006

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MER598

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8358 SAS No.: _____ SDG No.: MER200

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Recieved: 10/28/87

% Solids: 77.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2420			P
7440-36-0	Antimony	8.0	U	N	P
7440-38-2	Arsenic	3.0	B	S	F
7440-39-3	Barium	52.0	B		P
7440-41-7	Beryllium	0.26	U		P
7440-43-9	Cadmium	1.3	U		P
7440-70-2	Calcium	514	B		P
7440-47-3	Chromium	7.5			P
7440-48-4	Cobalt	1.5	U		P
7440-50-8	Copper	112			P
7439-89-6	Iron	5380			P
7439-92-1	Lead	9.8		N	F
7439-95-4	Magnesium	557	B		P
7439-96-5	Manganese	22.9			P
7439-97-6	Mercury	0.13	U		CV
7440-02-0	Nickel	5.0	B		P
7440-09-7	Potassium	243	B	E	P
7482-49-2	Selenium	0.26	U	WN	F
7440-22-4	Silver	1.3	U		P
7440-23-5	Sodium	386	U		P
7440-28-0	Thallium	0.51	U	WN	F
7440-62-2	Vanadium	7.1	B	E	P
7440-66-6	Zinc	55.0			P
	Cyanide	0.64	U		AS

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

ARSENIC VALUE IS DETERMINED BY MSA

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MER599

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8358 SAS No.: _____ SDG No.: MER200

Matrix (soil/water): SOIL Lab Sample ID: _____

Level (low/med): LOW Date Recieved: 10/28/87

% Solids: 86.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2550			P
7440-36-0	Antimony	7.1	U	N	P
7440-38-2	Arsenic	3.8		S	F
7440-39-3	Barium	29.8	B		P
7440-41-7	Beryllium	0.23	U		P
7440-43-9	Cadmium	1.2	U		P
7440-70-2	Calcium	1790			P
7440-47-3	Chromium	4.1			P
7440-48-4	Cobalt	1.4	U		P
7440-50-8	Copper	7.5			P
7439-89-6	Iron	3260			P
7439-92-1	Lead	6.8		N	F
7439-95-4	Magnesium	768	B		P
7439-96-5	Manganese	131			P
7439-97-6	Mercury	0.12	U		CV
7440-02-0	Nickel	3.7	B		P
7440-09-7	Potassium	416	B	E	P
7482-49-2	Selenium	0.23	U	WN	F
7440-22-4	Silver	1.2	U		P
7440-23-5	Sodium	345	U		P
7440-28-0	Thallium	0.46	U	WN	F
7440-62-2	Vanadium	5.4	B	E	P
7440-66-6	Zinc	44.8			P
	Cyanide	0.58	U		AS

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

ARSENIC VALUE IS DETERMINED BY MSA

U.S. EPA - CLP

3
BLANKS

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8358 SAS No.: _____ SDG No.: MER200

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration BLANK	C	M
Aluminum	20.0	U	20.0	U	20.0	U	20.0	U	7.6	B	P
Antimony	31.0	U	31.0	U	31.0	U	31.0	U	6.2	U	P
Arsenic											
Barium	3.0	U	3.0	U	3.0	U	3.0	U	0.60	U	P
Beryllium	1.0	U	1.0	U	1.0	U	1.0	U	0.20	U	P
Cadmium	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	P
Calcium	92.0	U	92.0	U	92.0	U	92.0	U	18.4	U	P
Chromium	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	P
Cobalt	6.0	U	6.0	U	6.0	U	6.0	U	1.2	U	P
Copper	9.0	U	9.0	U	9.0	U	9.0	U	1.8	U	P
Iron	31.0	U	31.0	U	31.0	U	31.0	U	6.2	U	P
Lead	28.0	U	28.0	U	28.0	U	28.0	U	5.6	U	F
Magnesium	90.0	U	90.0	U	90.0	U	90.0	U	18.0	U	P
Manganese	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	P
Mercury											
Nickel	7.0	U	7.0	U	7.0	U	7.0	U	1.4	U	P
Potassium	111	U	111	U	111	U	111	U	22.2	U	P
Selenium											
Silver	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	P
Sodium	1500	U	1500	U	1500	U	1500	U	300	U	P
Thallium											
Vanadium	2.0	U	2.0	U	2.0	U	2.0	U	0.40	U	P
Zinc	13.0	U	13.0	U	13.0	U	13.0	U	2.6	U	P
Cyanide											

U.S. EPA - CLP

3
BLANKS

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8358 SAS No.: _____ SDG No.: MER200

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration BLANK	C	M
Aluminum											
Antimony											
Arsenic	4.0	U	4.0	U	4.0	U	4.0	U	0.80	U	F
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead	1.0	U	1.0	U	1.0	U	1.0	U	0.20	U	F
Magnesium											
Manganese											
Mercury	0.2	U	0.2	U	0.2	U			0.10	U	CV
Nickel											
Potassium											
Selenium	1.0	U	1.0	U	1.0	U	1.0	U	0.20	U	F
Silver											
Sodium											
Thallium	2.0	U	2.0	U	2.0	U	2.0	U	0.40	U	F
Vanadium											
Zinc											
Cyanide	10.0	U	10.0	U	10.0	U			0.50	U	AS

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BLANKS

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8358 SAS No.: _____ SDG No.: MER200

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration BLANK	C	M
Aluminum											
Antimony											
Arsenic			4.0	U							
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead			1.0	U							
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium			1.0	U							
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

U.S. EPA - CLP

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BLANKS

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8358 SAS No.: _____ SDG No.: MER200

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration BLANK	C	M
Aluminum											
Antimony											
Arsenic											
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead											
Magnesium											
Manganese											
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.10	U	CV
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium	2.0	U	2.0	U	2.0	U					F
Vanadium											
Zinc											
Cyanide											

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BLANKS

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8358 SAS No.: _____ SDG No.: MER200

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration BLANK	C	M
Aluminum											
Antimony											
Arsenic											
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead											
Magnesium											
Manganese											
Mercury			0.2	U							
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.
MER200

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8358 SAS No.: _____ SDG No.: MER200

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum		1600		1610		0.0	0.0		NR
Antimony	75-125	61.9		6.7	U	109	56.8	N	P
Arsenic	75-125	9.2		1.2	B	8.7	92.0		F
Barium	75-125	468		22.5	B	434	102.6		P
Beryllium	75-125	10.5		0.22	U	10.9	96.3		P
Cadmium	75-125	10.2		1.1	U	10.9	93.6		P
Calcium		717	B	731	B	0.0	0.0		NR
Chromium	75-125	47.2		3.0		43.4	101.8		P
Cobalt	75-125	116		1.3	U	109	106.4		P
Copper	75-125	64.5		13.0		54.3	94.8		P
Iron		2500		2480		0.0	0.0		NR
Lead	75-125	115		9.2		109	97.1		P
Magnesium		342	B	341	B	0.0	0.0		NR
Manganese	75-125	194		73.9		109	110.2		P
Mercury	75-125	0.54		0.11	U	0.5	108.0		CV
Nickel	75-125	117		2.2	B	109	105.3		P
Potassium		245	B	214	B	0.0	0.0		NR
Selenium	75-125	1.6		0.22	U	2.2	72.7	N	F
Silver	75-125	10.8		1.1	U	10.9	99.1		P
Sodium		713	B	326	U	0.0	0.0		NR
Thallium	75-125	45.7		2.2	U	10.9	419.3	N	F
Vanadium	75-125	111		3.4	B	109	98.7		P
Zinc	75-125	122		17.0		109	96.3		P
Cyanide	75-125	4.1		0.54	U	5.4	75.9		AS

Comments:
ARSENIC AND SELENIUM MATRIX SPIKE RESULTS ARE DETERMINED BY MSA
THALLIUM SAMPLE RESULT IS REPORTED AT AN ADDITIONAL 5X DILUTION
LEAD SAMPLE AND MATRIX SPIKE RESULT IS DETERMINED BY MSA

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.
MER200

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8358 SAS No.: _____ SDG No.: MER200

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	75-125	8.9		6.8		4.3	48.8	N	F
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

Comments:
ARSENIC AND SELENIUM MATRIX SPIKE RESULTS ARE DETERMINED BY MSA
THALLIUM SAMPLE RESULT IS REPORTED AT AN ADDITIONAL 5X DILUTION
LEAD SAMPLE AND MATRIX SPIKE RESULT IS DETERMINED BY MSA

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5B

POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

MER200

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8358 SAS No.: _____ SDG No.: MER200

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony		512		10.4	B	570	88.0		P
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

U.S. EPA - CLP

6
DUPLICATES

EPA SAMPLE NO.
MER200

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8358 SAS No.: _____ SDG No.: MER200

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 92.1 % Solids for Duplicate: 91.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		1610		1620		0.6		P
Antimony		6.7	U	6.7	U			P
Arsenic		1.2	B	1.3	B	8.0		F
Barium		22.5	B	23.6	B	4.8		P
Beryllium		0.22	U	0.22	U			P
Cadmium		1.1	U	1.1	U			P
Calcium		731	B	724	B	1.0		P
Chromium	2.0	3.0		3.1		3.3		P
Cobalt		1.3	U	1.3	U			P
Copper	5.0	13.0		9.1		35.3		P
Iron		2480		2560		3.2		P
Lead		9.2		9.9		7.3		P
Magnesium		341	B	341	B	0.0		P
Manganese		73.9		83.5		12.2		P
Mercury		0.11	U	0.11	U			CV
Nickel		2.2	B	3.6	B	48.3		P
Potassium		214	B	228	B	6.3		P
Selenium		0.22	U	0.22	U			F
Silver		1.1	U	1.1	U			P
Sodium		326	U	326	U			P
Thallium		2.2	U	0.43	U			F
Vanadium		3.4	B	3.6	B	5.7		P
Zinc	4.0	17.0		16.3		4.2		P
Cyanide		0.54	U	0.54	U			AS

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6
DUPLICATES

EPA SAMPLE NO.
MER200

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8358 SAS No.: _____ SDG No.: MER200

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 92.1 % Solids for Duplicate: 91.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead		6.8		6.5		4.5		F
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								
Cyanide								

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7

LABORATORY CONTROL SAMPLE

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8358 SAS No.: _____ SDG No.: MER200

Solid LCS Source: EMSL-LV

Aqueous LCS Source: EMSL-LV

Analyte	Aqueous (ug/L) True	Found	%R(1)	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum				325	395		225	424	122
Antimony				211	259		127	294	123
Arsenic									
Barium				4.8	5.7		0.0	40.0	119
Beryllium				19.4	20.7		16.5	22.3	107
Cadmium				45.4	42.5		35.7	55.1	93.6
Calcium				196200	187000		166800	225600	95.3
Chromium				99.6	97.7		79.2	120	98.1
Cobalt				144	143		125	162	99.3
Copper				6910	7170		6006	7820	104
Iron				22430	21100		17770	27080	94.1
Lead				236	216		188	285	91.5
Magnesium				118100	120000		100400	129900	102
Manganese				208	222		177	239	107
Mercury									
Nickel				60.9	57.7		49.2	72.6	94.7
Potassium				50.0	97.4		0.0	1000	195
Selenium									
Silver				22.2	26.6		15.5	29.0	120
Sodium				50.0	53.5		0.0	1000	107
Thallium									
Vanadium				65.8	68.2		51.7	79.9	104
Zinc				187	159		138	236	85.0
Cyanide									

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LABORATORY CONTROL SAMPLE

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8358 SAS No.: _____ SDG No.: MER200

Solid LCS Source: EMSL-LV

Aqueous LCS Source: EMSL-LV

Analyte	Aqueous (ug/L) True	Found	%R(1)	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic				917	688		635	1199	75.0
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				236	237		188	285	100
Magnesium									
Manganese									
Mercury				12.7	12.0		8.5	17.0	94.5
Nickel									
Potassium									
Selenium				39.2	34.1		19.1	59.4	87.0
Silver									
Sodium									
Thallium				39.0	42.5		24.6	53.5	109
Vanadium									
Zinc									
Cyanide									

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LABORATORY CONTROL SAMPLE

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8358 SAS No.: _____ SDG No.: MER200

Solid LCS Source: EMSL-LV

Aqueous LCS Source: _____

Analyte	Aqueous (ug/L) True	Found	%R(1)	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury				12.7	12.0		8.5	17.0	94.5
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

ecology and environment, inc.

111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9415

International Specialists in the Environment

CRL Receipt Date 12/11/87 FIT Receipt Date 2/3/88 Review Completed 2/9/88

TO: Nesterenko, Melanie

FROM: Loretta Guzdziol

SUBJECT: Diamond International

PAN: IL0529 (1 hour charged for review) Case # 8358

Sample Description

Organics (VOA, ABN, Pest/PCB)		Inorganics (Metals, Cyanide)	
# 6	Low Soil	#	Low Soil
	Low Water		Low Water
	Drinking Water		Drinking Water
	Other		Other

Project Data Status X Completed!!

_____ Incomplete, awaiting _____

FIT Data Review Findings:

See reviewer Summary. (tab)

Check Data Sheets for Transcription Errors

_____ Compounds were detected in sample(s); see enclosed sheet.

Book No. 7 Page No. 74 Date Sampled 10/27/87

2/3/88

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 1/28/88

SUBJECT: Review of Region V CLP Data
Received for Review on 12/11/87

FROM: Curtis Ross, Director (5SCRL) Patrick G. Cunilla Jr.
Central Regional Laboratory

TO: Data User: FIT

We have reviewed the data for the following case(s).

SITE NAME: Diamond International SMO Case No. 8358

EPA Data Set No. SF4568 No. of Samples: 6 D.U./Activity Numbers Y905/C721ZZ

CRL No. 88FN04S44 - S49

SMO Traffic No. EQ257 - 262

CLP Laboratory: METATRACE, Inc. Hrs. Required for Review: 6

PAN:# FIL0529SA

Following are our findings:

J.C. BY BRD 1/22/88

( ) Data are acceptable for use.
(X) Data are acceptable for use with qualifications noted above.
( ) Data are preliminary - pending verification by Contractor Laboratory.
( ) Data are unacceptable.

cc: Duane Geuder, Quality Assurance Officer, EPA Support Services
James Petty, Chief Quality Assurance Research, EMSL, Las Vegas

EPA FORM 1320-6 (Rev. 5/87)

This review covers 6 soil samples for which full organic analysis was requested. This case was received by Metatrace Labs on October 27, 1987. All samples were screened and run as low concentration samples.

A. Holding Times - Acceptable

B. Surrogates - Acceptable

C. MS/MSD - Acceptable

Recovery
VOA - 0 Outside QC limits
B/N - 2 Outside QC limits
Acid - 4 Outside QC limits
Pest - 9 Outside QC limits
RPD's -
VOA - 1 Outside QC limits
B/N - 1 Outside QC limits
Acid - 0 Outside QC limits
Pest - 2 Outside QC limits

D. Method Blank - Acceptable - No compounds were detected.

E. Calibrations - Acceptable - Compounds that are outside the specification are listed on the calibration outlier form.

F. Tunings - Acceptable

G. Pesticides - Acceptable
Linearity - Acceptable
DBC Shift - Acceptable
DDT retention time - Acceptable

BRJ for J.C.
1/22/88

USER INFORMATION SHEET

Diamond International — Metatrace Labs — January 12, 1988
Case # 8358 — Reviewed by Lloyd Collins

These samples contained methylene chloride, acetone, carbon disulfide, 1,1,1-trichloroethane, toluene, di-n-butylphthalate, butylbenzyphthalate and bis(2-ethylhexyl)phthalate. There were no positive results in the pesticide fraction. Nine out of twelve matrix spikes and matrix spike duplicates were outside the QC limits, however since there were no positive hits in the pesticide fraction, the data quality was not affected.

BW for LC
1/12/88

Case #8358

Site Diamond Hill

COMPOUND	SAMPLE	DET. LIMIT	UNITS ug/kg						
			EQ257	EQ258	EQ257	EQ260	EQ261	EQ262	
dimethyl phthalate									
acenaphthylene									
3-nitroaniline									
acenaphthene									
2,4-dinitrophenol									
4-nitrophenol									
dibenzofuran									
2,4-dinitrotoluene									
2,6-dinitrotoluene									
diethylphthalate									
4-chlorophenyl-phenylether									
fluorene									
4-nitroaniline									
4,6-dinitro-2-methylphenol									
N-nitrosodiphenylamine									
4-bromophenyl-phenylether									
hexachlorobenzene									
pentachlorophenol									
phenanthrene									
anthracene									
di-n-butylphthalate			450		13000	3700	2400	11000	
fluoranthene									
benzidine									
pyrene									
butylbenzylphthalate				7300		4500	4000	36000	
3,3'-dichlorobenzidine									
benzo(a)anthracene									
bis(2-ethylhexyl)phthalate			490			1000	5900	3300 J	
chrysene									
di-n-octylphthalate									
benzo(b&k)fluoranthene									
benzo(a)pyrene									
indeno(1,2,3-cd)pyrene									
dibenzo(a,h)anthracene									
benzo(g,h,i)perylene									
alpha-BHC									
beta-BHC									
delta-BHC									
gamma-BHC(lindane)									
heptachlor									
aldrin									
heptachlor epoxide									
endosulfan I									
dieldrin									
4,4'-DDE									
endrin									
endosulfan II									
4,4'-DDD									
endrin aldehyde									
endosulfan sulfate									
4,4'-DDT									
methoxychlor									
endrin ketone									
chlordane									
toxephene									
Aroclor-1016									
Aroclor-1221									
Aroclor-1232									
Aroclor-1242									
Aroclor-1248									
Aroclor-1254									

CASE #5358
site: Diamond Intl.

COMPOUND	SAMPLE DET. LIMIT	µg/Kg EQ257	µg/Kg EQ258	µg/Kg EQ259	µg/Kg EQ260	µg/Kg EQ261	µg/Kg EQ262
chloromethane							
bromomethane							
vinyl chloride							
chloroethane							
methylene chloride		945 X		76	370	220	350
acetone		600	110	40	61	31	130
carbon disulfide			35				
1,1-dichloroethene							
1,1-dichloroethane							
trans-1,2,-dichloroethene							
chloroform							
1,2-dichloroethane							
2-butanone							
1,1,1-trichloroethane			9				
carbon tetrachloride							
vinyl acetate							
bromodichloromethane							
1,1,2,2-tetrachloroethane							
1,2-dichloropropane							
trans-1,3-dichloropropene							
trichloroethene							
dibromochloromethane							
1,1,2-trichloroethane							
benzene							
cis-1,3-dichloropropene							
2-chloroethylvinylether							
bromoform							
2-hexanone							
4-methyl-2-pentanone							
tetrachloroethene							
toluene		17	130	16	32	23	12
chlorobenzene							
ethylbenzene							
styrene							
total xylenes							
N-nitrosodimethylamine							
phenol							
aniline							
bis(2-chloroethyl)ether							
2-chlorophenol							
1,3-dichlorobenzene							
1,4-dichlorobenzene							
benzyl alcohol							
1,2-dichlorobenzene							
2-methylphenol							
bis(2-chloroisopropyl)ether							
4-methylphenol							
N-nitroso-di-n-propylamine							
hexachloroethane							
nitrobenzene							
isophrone							
2-nitrophenol							
2,4-dimethylphenol							
benzoic acid							
bis(2-chloroethoxy)methane							
2,4-dichlorophenol							
1,2,4-trichlorobenzene							
napthalene							
4-chloroaniline							
hexachlorobutadiene							
4-chloro-3-methylphenol							
2-methylnapthalene							
hexachlorocyclopentadiene							

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION V
CALIBRATION OUTLIERS
VOLATILE HSL COMPOUNDS

CASE/SAS # 8359 CONTRACTOR Metatrace

Instrument # MSC	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Ca	
DATE/TIME:	10/16/87			11/4/87			11/5/87			11/6/87				
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D
Chloromethane														
Bromomethane														
Vinyl Chloride														
Chloroethane														
Methylene Chloride														
Acetone														
Carbon Disulfide					41.17	J		33.14	J		21.45	J		
1,1-Dichloroethane														
1,1-Dichloroethene														
Trans-1,2-Dichloroethene														
Chloroform														
2-Butanone														
1,2-Dichloroethane														
1,1,1-Trichloroethane														
Carbon Tetrachloride														
Vinyl Acetate														
Bromodichloromethane														
1,2-Dichloropropane														
Trans-1,3-Dichloropropene														
Trichloroethene														
Dibromochloromethane														
1,1,2-Trichloroethane														
Benzene														
cis-1,3-Dichloropropene														
2-Chloroethylvinylether														
Bromoform														
4-Methyl-2-Pentanone														
2-Hexanone														
Tetrachloroethene														
1,1,2,2-Tetrachloroethane														
Toluene														
Chlorobenzene														
Ethylbenzene														
Styrene														
m-Xylene														
o/p-Xylene														

AFFECTED SAMPLES:

BLK	EQ251	EQ259
	EQ255	
	EQ261	
	EQ260	
	EQ262	

Reviewer's Initials/Date: L.C. 11/16/87

* These flags should be applied to the analytes on the sample data sheets.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION V
CALIBRATION OUTLIERS
SEMIVOLATILE HSL COMPOUNDS
(Page 1)

CASE/SAS # 5359 CONTRACTOR [illegible]

Instrument # MSD	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont.	
DATE/TIME:	11/19/87			11/21/87			12/-/87							
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D
Phenol														
bis(-2-Chloroethyl)Ether														
2-Chlorophenol														
1,3-Dichlorobenzene														
1,4-Dichlorobenzene														
Benzyl Alcohol														
1,2-Dichlorobenzene														
2-Methylphenol														
bis(2-chloroisopropyl)Ether														
4-Methylphenol														
N-Nitroso-Di-n-Propylamine														
Hexachloroethane														
Nitrobenzene														
Isophorone														
2-Nitrophenol														
2,4-Dimethylphenol														
Benzoic Acid														
bis(2-Chloroethoxy)Methane														
2,4-Dichlorophenol														
1,2,4-Trichlorobenzene														
Naphthalene														
4-Chloroaniline														
Hexachlorobutadiene														
4-Chloro-3-Methylphenol														
2-Methylnaphthalene														
Hexachlorocyclopentadiene														
2,4,6-Trichlorophenol														
2,4,5-Trichlorophenol														
2-Chloronaphthalene														
2-Nitroaniline														
Dimethyl Phthalate														
Acenaphthylene														
3-Nitroaniline														
Acenaphthene														
2,4-Dinitrophenol														
4-Nitrophenol														
Dibenzofuran														

	Init. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont.
AFFECTED SAMPLES:	All	EG258	EG257		
		EG259			
		EG260			
		EG261			
		EG262			

Reviewer Initials/Date: [illegible]

* These flags should be applied to the analytes on the sample data sheets.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION V
CALIBRATION OUTLIERS
SEMIVOLATILE HSL COMPOUNDS
Page 2

CASE/SAS # 5255 CONTRACTOR Meta Trace

Instrument # 1255 D	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont.	
DATE/TIME:	11/19/57			11/21/57			12/4/57							
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D
2,4-Dinitrotoluene														
2,6-Dinitrotoluene														
Diethylphthalate														
4-Chlorophenyl-phenylether														
Fluorene														
4-Nitroaniline														
4,6-Dinitro-2-Methylphenol														
N-Nitrosodiphenylamine														
4-Bromophenyl-phenylether														
Hexachlorobenzene														
Pentachlorophenol														
Phenanthrene														
Anthracene														
Di-n-Butylphthalate														
Fluoranthene														
Pyrene														
Butylbenzylphthalate														
Benzo(a)Anthracene														
bis(2-Ethylhexyl)Phthalate								35.33	F					
Chrysene														
Di-n-Octyl Phthalate														
Benzo(b)Fluoranthene														
Benzo(k)Fluoranthene														
Benzo(a)Pyrene														
Indeno(1,2,3-cd)Pyrene														
Dibenz(a,h)Anthracene														
Benzo(g,h,i) Perylene														

SEE PAGE 1 FOR AFFECTED SAMPLES.

* These flags should be applied to the analytes on the sample data sheets.

Reviewer's Initials/Date: JC 11/12/57

8/8

Case: 8358

Contractor: Metatrace

TENTATIVELY IDENTIFIED COMPOUNDS
WATCH ASSESSMENT

NOTE: Reviewer should note directly on Organic Analysis Data Sheet (OADS) those matches that in his opinion (based on contract criteria) are unreasonable.

CRITERIA

(1) Relative intensities of major ions (>10%) reference spectrum should be present in the sample spectrum.

(2) Relative intensities of major ions in sample spectrum should agree to within ± 20% of reference spectrum intensities.

(3) Molecular ions present in reference spectrum should be present in sample spectrum.

(4) Ions present in sample spectrum, but not in reference spectrum should be reviewed for possible background contamination or presence of coeluting interferences.

(5) Ions present in reference spectrum, but not in the sample spectrum should be reviewed for possible subtraction from the sample spectrum because of background contamination or coeluting interferences.

(6) If, in the reviewer's opinion, no valid identification can be made the compound should be labelled as "unknown" and the initials and date of the reviewer placed on the OADS.

Reviewer's Initials/Date: ZC by BAJ 1/22/88

metaTRACE, Inc.
A subsidiary of TRC Companies, Inc
13715 Rider Trail North • Earth City, MO 63045 • (314) 298-8566

CASE NARRATIVE

Laboratory Name: metaTRACE, Inc.
13715 Rider Trail North
Earth City, MO 63045

Contract Number: 68-01-7417 SDG: EQ257

Case Number: 8358 Lab Code: meta

EPA Sample Numbers:	metaTRACE Sample #:
EQ257	AA05026
EQ258	AA05027
EQ259	AA05028
EQ260	AA05029
EQ261	AA05030
EQ262	AA05031
EQ262MS	AA05032
EQ262MSD	AA05033

General:

Six soil samples for case 8358 were received on 10-27-87 by the metaTRACE Sample Custodian. All samples were received in good condition. Samples were logged into the metaTRACE LIMS sample tracking system and assigned the unique identifiers listed above.

Volatile Analysis:

The volatile samples were analyzed on 11-04-87, 11-05-87 and 11-06-87. Surrogate spike recoveries were in control for all samples, blanks, matrix spikes and duplicates.

Extraction:

All soil samples were extracted for BNAs and Pesticide/PCBs on 11-02-87.

Semivolatile Analysis:

Semivolatile extracts were analyzed on 11-21-87 and 12-04-87. Several samples required a 1:10 dilution since they could not be concentrated to a final volume of 0.95ml. Surrogates were diluted out in two samples.

Pesticide Analysis:

Pesticide samples were analyzed on 11-17-87. The 6 ft X 2mm I.D. mixed phase column used, did not separate DBC from Endrin ketone. The lab is awaiting a new "guaranteed" packed 6 ft. X 4mm I.D. column to correct this problem. The %RSD and % Difference criteria for Evaluation mixtures, Individual standards and DBC were met.

Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Kenneth J. Baughman
Assistant Vice President,
Manager, Project Administration

12-10-87
Date

In Reference to Case No(s):

Contract Laboratory Program
REGIONAL/LABORATORY COMMUNICATION SYSTEM
Telephone Record Log

Date of Call: 1-27-88

Laboratory Name:

Lab Contact:

Region:

Regional Contact:

Call Initiated By: ___ Laboratory ___X___ Region

In reference to data for the following sample number(s):

Summary of Questions/Issues Discussed:

Summary of Resolution:

Signature

Date

Distribution: (1) Lab Copy, (2) Region Copy, (3) SMO Copy

TABLES. ONLY DETECTABLE CONCENTRATIONS ARE REPORTED. HOWEVER, IF THE COMPOUND HAS A FOOTNOTE FOLLOWING THE VALUE, CONSULT THE DEFINITION OF THE FOOTNOTE PROVIDED BELOW. ADDITIONAL QA/QC IS PROVIDED IN THE ATTACHED DATA SHEETS.

I. REPORTING UNITS

A. Organics

1. Water Samples - ug/L or ppb (parts per billion)
2. Soils or Sediments - ug/kg or ppb (parts per billion)

B. Metals

1. Water Samples - ug/L or ppb (parts per billion)
2. Soils or Sediments - mg/kg or ppm (parts per million)

II. DEFINITION OF FOOTNOTES TO ANALYTICAL DATA

A. Organics

FOOTNOTE	DEFINITION	INTERPRETATION
U	Indicates compound was analyzed for but not detected.	Compound was not detected.
J	Indicates an estimated value.	Compound value may be semi-quantitative
UJ	Quantitation limit is estimated due to a Quality Control (QC) protocol.	Compound was not detected.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS. Single component pesticides >10 ng/ul in the final extract shall be confirmed by GC/MS.	Compound was confirmed by mass spectrosc
B	This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/ probable blank contamination and warns the data user to take appropriate action.	Compound value may be semi-quantitative it is <5x the blank concentration (<10x the blank concentrations for common lab artifacts: phthalates, methylene chlori acetone, toluene, 2-butanone).
E	This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis. This flag will not apply to pesticides/PCBs analyzed by GC/EC methods.	Compound value may be semi-quantitative.
D	This flag identifies all compounds identified in an analysis at a secondary dilution factor.	Alerts data user to a possible change in the CRQL.
A	This flag indicates that a TIC is a suspected aldol-condensation product.	Alerts data user of a lab artifact.
R	Results are unusable due to a major violation of QC protocol.	Compound value is not usable.

B. Metals

FOOTNOTE		DEFINITION	INTERPRETATION
OLD	NEW		
E	E	Estimated or not reported due to inteference. See laboratory narrative.	Compound or element was not detected or value may be semi-quantitative.
S	S	Analysis by Method of Standard Additions.	Value may be quantitative.
R	N	Spike recoveries outside QC protocols which indicates a possible matrix problem. Data may be biased high or low. See spike results and laboratory narrative.	Value may be quantitative or semi-quantitative.
*	*	Duplicate value outside QC protocols which indicates a possible matrix problem.	Value may be semi-quantitative.
+	+	Correlation coefficient for standard additions in less than 0.995. See review and laboratory narrative.	Data value may be biased.
[ ]	B	Value is real, but is above instrument DL and below CRDL.	Value may be quantitative or semi-quantitative.
UJ		DL is estimated because of a QC protocol. DL is possibly above or below CRDL.	Compound or element was not detected.
J		Value is above CRDL and is an estimated value because of a QC Protocol.	Value may be semi-quantitative.
U	U	Compound was analyzed for but not detected.	Compound was not detected.
	M	Duplicate injection precision not met.	Value may be semi-quantitative.
	W	Post digestion spike for furnance AA analysis is out of control limits (35-115%), while sample absorbance is <50% of spike absorbance.	Value may be semi-quantitative.

C. Other Symbols Used

NA Value not available due to insufficient data.
NR Value not calculated since chemical is not a carcinogen.
( ) Estimated value.

metaTRACE, Inc. 13715 Rider Trail North • Earth City, MO 63045 • (314) 298-8566

Target Compound List (TCL) and Contract Required Quantitation Limits (CRQL)*

Volatiles	Quantitation Limits** Water ug/L	Low Soil/Sediment(a) ug/Kg	Med Soil ug/Kg	Primary Ions
Chloromethane	10	10	1000	50
Bromomethane	10	10	1000	94
Vinyl Chloride	10	10	1000	62
Chloroethane	10	10	1000	64
Methylene Chloride	5	5	500	84
Acetone	10	10	1000	43
Carbon Disulfide	5	5	500	76
1,1-Dichloroethene	5	5	500	96
1,1-Dichloroethane	5	5	500	63
1,2-Dichloroethene (total)	5	5	500	96
Chloroform	5	5	500	83
1,2-Dichloroethane	5	5	500	62
2-Butanone	10	10	1000	72
1,1,1-Trichloroethane	5	5	500	97
Carbon Tetrachloride	5	5	500	117
Vinyl Acetate	10	10	1000	43
Bromodichloromethane	5	5	500	83
1,2-Dichloropropane	5	5	500	63
cis-1,3-Dichloropropene	5	5	500	75
Trichloroethene	5	5	500	130
Dibromochloromethane	5	5	500	129
1,1,2-Trichloroethane	5	5	500	97
Benzene	5	5	500	78
trans-1,3-Dichloropropene	5	5	500	75
Bromoform	5	5	500	173
4-Methyl-2-pentanone	10	10	1000	43
2-Hexanone	10	10	1000	43
Tetrachloroethene	5	5	500	164
Toluene	5	5	500	92
1,1,2,2-Tetrachloroethane	5	5	500	83
Chlorobenzene	5	5	500	112
Ethyl Benzene	5	5	500	106
Styrene	5	5	500	104
Xylenes (total)	5	5	500	106
SURROGATE STANDARDS				
4-Bromofluorobenzene				95
1,2-Dichloroethane d-4				65
Toluene d-8				98
INTERNAL STANDARDS				
Bromochloromethane				128
1,4-Difluorobenzene				114
Chlorobenzene d-5				117

000083

metaTRACE, Inc. 13715 Rider Trail North • Earth City, MO 63045 • (314) 298-8566

Target Compound List (TCL) and Contract Required Quantitation Limits (CRQL)*

Semivolatiles	Quantitation Limits** Water ug/L	Low Soil/Sediment(b) ug/Kg	Med Soil ug/Kg	Primary Ions
Phenol	10	330	19800	94
bis(2-Chloroethyl)ether	10	330	19800	93
2-Chlorophenol	10	330	19800	128
1,3-Dichlorobenzene	10	330	19800	146
1,4-Dichlorobenzene	10	330	19800	146
Benzyl alcohol	10	330	19800	108
1,2-Dichlorobenzene	10	330	19800	146
2-Methylphenol	10	330	19800	108
bis(2-Chloroisoproply) ether	10	330	19800	45
4-Methylphenol	10	330	19800	108
N-Nitroso-di-n-dipropylamine	10	330	19800	70
Hexachloroethane	10	330	19800	117
Nitrobenzene	10	330	19800	77
Isophorone	10	330	19800	82
2-Nitrophenol	10	330	19800	139
2,4-Dimethylphenol	10	330	19800	107
Benzoic acid	50	1600	96000	122
bis(2-Chloroethoxy) methane	10	330	19800	93
2,4-Dichlorophenol	10	330	19800	162
1,2,4-Trichlorobenzene	10	330	19800	180
Naphthalene	10	330	19800	128
4-Chloroaniline	10	330	19800	127
Hexachlorobutadiene	10	330	19800	225
4-Chloro-3-methylphenol (para-chloro-meta-cresol)	10	330	19800	107
2-Methylnaphthalene	10	330	19800	142
Hexachlorocyclopentadiene	10	330	19800	237
2,4,6-Trichlorophenol	10	330	19800	196
2,4,5-Trichlorophenol	50	1600	96000	196
2-Chloronaphthalene	10	330	19800	162
2-Nitroaniline	50	1600	96000	65
Dimethylphthalate	10	330	19800	163
Acenaphthylene	10	330	19800	152
2,6-Dinitrotoluene	10	330	19800	165
3-Nitroaniline	50	1600	96000	138
Acenaphthene	10	330	19800	153
2,4-Dinitrophenol	50	1600	96000	184
4-Nitrophenol	50	1600	96000	109
Dibenzofuran	10	330	19800	168
2,4-Dinitrotoluene	10	330	19800	165
Diethylphthalate	10	330	19800	149
4-Chlorophenyl-phenyl ether	10	330	19800	204
Fluorene	10	330	19800	166
4-Nitroaniline	50	1600	96000	

Target Compound List (TCL) and Contract Required Quantitation Limits (CRQL)*

Semivolatiles	Quantitation Limits** Water ug/L	Low Soil/Sediment(b) ug/Kg	Med Soil ug/Kg	Primary Ions
4,6-Dinitro-2-methylphenol	50	1600	96000	198
N-nitrosodiphenylamine	10	330	19800	169
4-Bromophenyl-phenylether	10	330	19800	248
Hexachlorobenzene	10	330	19800	284
Pentachlorophenol	50	1600	96000	266
Phenanthrene	10	330	19800	178
Anthracene	10	330	19800	178
Di-n-butylphthalate	10	330	19800	149
Fluoranthene	10	330	19800	202
Pyrene	10	330	19800	202
Butylbenzylphthalate	10	330	19800	149
3,3'-Dichlorobenzidine	20	660	39600	252
Benzo(a)anthracene	10	330	19800	228
Chrysene	10	330	19800	228
bis(2-Ethylhexyl)phthalate	10	330	19800	149
Di-n-octylphthalate	10	330	19800	149
Benzo(b)fluoranthene	10	330	19800	252
Benzo(k)fluoranthene	10	330	19800	252
Benzo(a)pyrene	10	330	19800	252
Indeno(1,2,3-cd)pyrene	10	330	19800	276
Dibenz(a,h)anthracene	10	330	19800	278
Benzo(g,h,i)perylene	10	330	19800	276
SURROGATE STANDARDS				
Phenol d-5				99
2-Fluoropheno				112
2,4,6-Tribromophenol				330
d-5 Nitrobenzene				82
2-Fluorobiphenyl				172
Terphenyl				244
INTERNAL STANDARDS				
1,4-Dichlorobenzene-d4				152
Naphthalene-d8				136
Acenapthene-d10				164
Phenanthrene-d10				188
Chrysene-d12				240
Perylene-d12				264

2B

SOIL VOLATILE SURROGATE RECOVERY

Lab Name: metaTRACE, INC Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Level: (low/med) LOW

	EPA SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
01	VBLK1	104	99	104		0
02	VBLK2	105	101	101		0
03	VBLK3	97	94	100		0
04	EQ257	110	106	103		0
05	EQ258	116	82	105		0
06	EQ258DL	112	95	99		0
07	EQ259	108	101	108		0
08	EQ260	110	100	114		0
09	EQ260DL	111	98	103		0
10	EQ261	112	112	107		0
11	EQ262	113	113	108		0
12	EQ262DL	100	94	101		0
13	EQ262MS	99	94	96		0
14	EQ262MSD	111	102	104		0
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

	QC LIMITS
S1 (TOL) = Toluene-d8	(81-117)
S2 (BFB) = Bromofluorobenzene	(74-121)
S3 (DCE) = 1,2-Dichloroethane-d4	(70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

000007

2D

SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: metaTRACE, INC Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Level: (low/med) LOW

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	OTHER	TOT OUT	
HBS	01 SBLK	90	93	129	77	77	91		0	HB
	02 EQ258	DL	DL	DL	DL	DL	DL		-	
	03 EQ259	DL	DL	DL	DL	DL	DL		-	
	04 EQ261	42	67	92	38	31	62		0	
	05 EQ262	56	83	133	41	35	42		0	
	06 EQ262MS	78	90	120	55	61	130*		1	
	07 EQ262MSD	53	72	110	48	45	119		0	
	08 EQ260	DL	DL	DL	DL	DL	DL		-	
	09 EQ257	DL	DL	DL	DL	DL	DL		-	
HBS01	10 SBLK	14*	77	60	135*	69	32		2	HB
	11 SBLK (10D)	95	92	110	83	68	66		0	
	12									
	13									
	14									
	15									
	16									
	17									
	18									
	19									
	20									
	21									
	22									
	23									
	24									
	25									
	26									
	27									
	28									
	29									
	30									

	QC LIMITS
S1 (NBZ) = Nitrobenzene-d5	(23-120)
S2 (FBP) = 2-Fluorobiphenyl	(30-115)
S3 (TPH) = Terphenyl-d14	(18-137)
S4 (PHL) = Phenol-d5	(24-113)
S5 (2FP) = 2-Fluorophenol	(25-121)
S6 (TBP) = 2,4,6-Tribromophenol	(19-122)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: metaTRACE, Inc Contract: 68-01-7417

I-h Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix Spike - EPA Sample No.: EQ2162 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50	0	62	124	59-172
Trichloroethene	50	0	38	76	62-137
Benzene	50	0	49	98	66-142
Toluene	50	0	49	98 nck	59-139
Chlorobenzene	50	0	47	94	60-133

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50	49	98	23 *	22	59-172
Trichloroethene	50	31	62	20	24	62-137
Benzene	50	42	84	15	21	66-142
Toluene	50	48	96	2	21	59-139
Chlorobenzene	50	40	80	16	21	60-133

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 1 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

000008

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: metaTRACE, INC Contract: 68-01-7417

I-n Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ253

Matrix Spike - EPA Sample No.: EQ262 Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Phenol	200	0	112	56	26- 90
2-Chlorophenol	200	0	112	56	25-102
1,4-Dichlorobenzene	100	0	67	67	28-104
N-Nitroso-di-n-prop.(1)	100	0	73	73	41-126
1,2,4-Trichlorobenzene	100	0	100	100	38-107
4-Chloro-3-methylphenol	200	0	171	86	26-103
Acenaphthene	100	0	56	56	31-137
4-Nitrophenol	200	0	344	172*	11-114
2,4-Dinitrotoluene	100	0	109	109*	28- 89
Pentachlorophenol	200	0	321	161*	17-109
Pyrene	100	0	120	120	35-142

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	200	97	49	13	35	26- 90
2-Chlorophenol	200	87	43	26	50	25-102
1,4-Dichlorobenzene	100	51	51	27	27	28-104
N-Nitroso-di-n-prop.(1)	100	57	57	25	38	41-126
1,2,4-Trichlorobenzene	100	70	70	35*	23	38-107
4-Chloro-3-methylphenol	200	153	77	11	33	26-103
Acenaphthene	100	48	48	15	19	31-137
4-Nitrophenol	200	300	150*	14	50	11-114
2,4-Dinitrotoluene	100	94	94*	15	47	28- 89
Pentachlorophenol	200	293	146*	10	47	17-109
Pyrene	100	110	110	9	36	35-142

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 1 out of 11 outside limits
Spike Recovery: 6 out of 22 outside limits

COMMENTS: _____

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: metaTRACE, Inc. Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Lab File ID: >C1526 Lab Sample ID: VBLK

Date Analyzed: 11/05/87 Time Analyzed: 14:06

Matrix: (soil/water) SOIL Level: (low/med) LOW

Instrument ID: MSC

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	EQ258DL	AA05027DL	>C1535	20:30
02	EQ259	AA05028	>C1536	00:07
03	EQ260DL	AA05029DL	>C1537	00:48
04				
05				
06				
07				
08				
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COMMENTS: _____

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: metaTRACE, Inc. Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Lab File ID: >C1542 Lab Sample ID: METHOD BLANK

Date Analyzed: 11/06/87 Time Analyzed: 10:39

Matrix: (soil/water) SOIL Level: (low/med) LOW

Instrument ID: MSC

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	EQ262 DL	AA05031DL	>C1545	12:49
02	EQ262 MS	AA05032	>C1546	13:30
03				
04				
05				
06				
07				
08				
09				
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30				

COMMENTS: _____

000011

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: metaTRACE, Inc. Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Lab File ID: >C1499 Lab Sample ID: METHOD BLANK

Date Analyzed: 11/04/87 Time Analyzed: 8:21

Matrix: (soil/water) SOIL Level: (low/med) LOW

Instrument ID: MSC

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	EQ257	AA05026	>C1504	11:32
02	EQ258	AA05027	>C1505	12:09
03	EQ261	AA05030	>C1508	14:01
04	EQ260	AA05029	>C1507	13:23
05	EQ262	AA05031	>C1509	14:39
06	EQ262MSD	AA05032	>C1511	15:53
07				
08				
09				
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COMMENTS: _____

SOIL PESTICIDE SURROGATE RECOVERY

Lab Name: META TRACE Contract: 68-01-7417

J-b Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Level: (low/med) LOW

	EPA SAMPLE NO.	S1 (DBC) #	OTHER	
01	PBLK	72		
02	EQ257	0 *		12/3/87
03	EQ257 DL	~~8~~ D		
04	EQ258	0 *		
05	EQ259	0 *		
06	EQ260	0 *		
07	EQ261	72		
08	EQ262	72		
09	EQ262 MS	63		
10	EQ262 MSD	49		
11	EQ257 DL	~~8~~ D		
12	EQ258 DL	~~8~~ D		
13	EQ259 DL	~~8~~ D		
14	EQ257 DL	6 D		
15				
16				
17				
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26				
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29				
30				

ADVISORY QC LIMITS (20-150)

S1 (DBC) = Dibutylchlorendate

Column to be used to flag recovery values

* Values outside of QC limits

D Surrogates diluted out

e 1 of 1

3F

SOIL PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: META-TRACE Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix Spike - EPA Sample No.: EQ 262 Level: (low/med) Low

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Lindane	3	-0-	0	0 *	46-127
Heptachlor	6	-0-	5	83	35-130
Aldrin	6	-0-	.034	567 *	34-132
Dieldrin	6	-0-	.16	267 *	31-134
Endrin	—	-0-	—	— *	42-139
4,4' DDT	13	-0-	14	108	23-134

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Lindane	3	0	0 *	~~0~~	50	46-127
Heptachlor	6	5	83	0	31	35-130
Aldrin	6	.25	417 *	30	43	34-132
Dieldrin	6	18	300 *	12	38	31-134
Endrin	—	—	— *	— *	45	42-139
4,4' DDT	13	19	146 *	30	50	23-134

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 2 out of 5 outside limits

Spike Recovery: ~~4~~ 4 out of ~~5~~ 12 outside limits Nbg 12/3/87

COMMENTS: Spiking solution did not contain Endrin — Lindane was not recovered in ~~Either~~ either MS/MSD

4C

PESTICIDE METHOD BLANK SUMMARY

Lab Name: META TRACE Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Lab Sample ID: Blank 101 Lab File ID: _____

Matrix: (soil/water) Soil Level: (low/med) low

Date Extracted: 11-2-87 Extraction: (SepF/Cont/Sonc) Sonc

Date Analyzed (1): 11-18-87 Date Analyzed (2): 11-20-87

Time Analyzed (1): 00:38 Time Analyzed (2): 22:22

Instrument ID (1): GC5890-3 Instrument ID (2): GC-5890-3

GC Column ID (1): RTX1 1.5SP 2950 1.95SP 2401 GC Column ID (2): SPB 210D

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	EQ257	AA05026	11-18-87	
02	EQ 257 DL	AA05026 DL	11-18-87	11-20-87 12:06 PF 12/1/87
03	EQ 258	AA05027	11-18-87	
04	EQ 259	AA05028	11-18-87	
05	EQ 260	AA05029	11-18-87	11-21-87
06	EQ 261	AA05030	11-18-87	11-21-87
07	EQ 262	AA05031	11-18-87	11-21-87
08	EQ 262 MS	AA05032 MS	11-18-87	11-21-87
09	EQ 262 MSD	AA05033 MSD	11-18-87	11-21-87
10	EQ 257 DL	AA05026 DL	11-18-87	11-21-87
11	EQ 258 DL	AA05027 DL	11-18-87	11-21-87
12	EQ 259 DL	AA05028 DL	11-18-87	11-21-87
13	EQ 257 DL	AA05026 DL	11-18-87	11-21-87
14				
15				
16				
17				
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23				
24				
25				
26				

COMMENTS: The following samples EQ 257, EQ 258, EQ 259 only Dilution extract was used for Confirmation Column

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK1

Lab Name: metaTRACE, INC. Contract: 68-01-7412

Code: meta Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: METHOD BLK

Sample wt/vol: _____ (g/mL) _____ Lab File ID: >C1499

Level: (low/med) LOW Date Received: 10/27/87

% Moisture: not dec. _____ Date Analyzed: 11/04/87

Column: (pack/cap) PACK Dilution Factor: 1

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/kg	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1) Sample Data Summary Pkg.

1E

EPA SAMPLE NO.

VBLK1

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: metaTRACE, INC Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: METHOD BLANK

Sample wt/vol: _____ (g/mL) G Lab File ID: >C1499

Level: (low/med) LOW Date Received: 10/27/87

Moisture: not dec. _____ Date Analyzed: 11/04/87 sal 11/4/87

Column: (pack/cap) PACK Dilution Factor: 1

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		NO PEAKS FOUND			
2.					
3.					
4.					
5.					
6.					
7.					
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9.					
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30.					

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

YBLK2

Lab Name: metaTRACE, INC Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: METHOD BLANK

Sample wt/vol: _____ (g/mL) _____ Lab File ID: >C1526

Level: (low/med) LOW Date Received: 10/27/87

Moisture: not dec. _____ Date Analyzed: 11/5/87

Column: (pack/cap) PACK Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	J
67-64-1	Acetone	26	
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1) Sample Data Summary Pkg.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK2

Lab Name: METATRACE, INC Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: ZQ257

Matrix: (soil/water) SOIL Lab Sample ID: Method Blank

Sample wt/vol: _____ (g/mL) _____ Lab File ID: >C1526

Level: (low/med) LOW Date Received: 10/27/87

% Moisture: not dec. _____ Date Analyzed: 11/5/87

Column: (pack/cap) Pack Dilution Factor: 1

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		NO PEAKS DETECTED			
2.					
3.					
4.					
5.					
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK3

Lab Name: metaTRACE, INC Contract: 68-01-7417

Code: META Case No.: 3358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: METHOD BLANK

Sample wt/vol: _____ (g/mL) _____ Lab File ID: >C1542

Level: (low/med) LOW Date Received: 10/27/87

% Moisture: not dec. _____ Date Analyzed: 11/06/87

Column: (pack/cap) PACK Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	4	J
67-64-1	Acetone	110	
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1) Sample Data Summary Pkg.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK3

Lab Name: metaTRACE, Inc Contract: 68-01-3417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: E0257

Matrix: (soil/water) SOIL Lab Sample ID: Method Blank

Sample wt/vol: _____ (g/mL) _____ Lab File ID: >C1542

Level: (low/med) LOW Date Received: 10/27/87

% Moisture: not dec. _____ Date Analyzed: 11/06/87

Column: (pack/cap) PACK Dilution Factor: 1

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	1.55	31	J
2.	76-13-1	Ethane, 1,1,2-trichloro-1,2,2-trifluoro	12.33	10	J
3.	123-91-1	1,4-Dioxane	14.05	32	J
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4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: MetaTRACE, Inc Contract: 68-01-7417

Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Lab File ID: >D1584 Lab Sample ID: BLANK HB 83 101

Date Extracted: 11/2/87 Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: HB 11/21/87 12-4-87 Time Analyzed: HB 45 03:15

Matrix: (soil/water) SOIL Level: (low/med) LOW

Instrument ID: MSD

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	EQ258	AA05027	>D1579	11/21/87
02	EQ259	AA05028	>D1580	11/21/87
03	EQ261	AA05030	>D1582	11/21/87
04	EQ262	AA05031	>D1583	11/21/87
05	EQ262MS	AA05032	>D1586	11/21/87
06	EQ262MSD	AA05033	>D1587	11/21/87
07	EQ260	AA05029	>D1581	11/21/87
08	EQ257	AA05026	>D1681	12/5/87
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COMMENTS: _____

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SBLK

Lab Name: metaTRACE, INC Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: BLANK 101

Sample wt/vol: _____ (g/mL) ___ Lab File ID: > D1670

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ dec. _____ Date Extracted: 11/2/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/04/87

GPC Cleanup: (Y/N) ___ pH: ____ Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
100-51-6	Benzyl alcohol	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	bis(2-Chloroisopropyl)ether	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-di-n-propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
65-85-0	Benzoic acid	1600	U
111-91-1	bis(2-Chloroethoxy)methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	1600	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	1600	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK

Lab Name: META TRACE, INC Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: E0257

Matrix: (soil/water) SOIL Lab Sample ID: BLANK 101

Sample wt/vol: _____ (g/mL) ____ Lab File ID: D1670

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ dec. _____ Date Extracted: _____

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/04/87

GPC Cleanup: (Y/N) ___ pH: ___ Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
99-09-2	3-Nitroaniline	1600	U
83-32-9	Acenaphthene	330	U
51-28-5	2,4-Dinitrophenol	1600	U
100-02-7	4-Nitrophenol	1600	U
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	1600	U
534-52-1	4,6-Dinitro-2-methylphenol	1600	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	1600	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
84-74-2	Di-n-butylphthalate	330	U
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	1660	U
56-55-3	Benzo(a)anthracene	330	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)phthalate	330	U
117-84-0	Di-n-octylphthalate	330	U
205-99-2	Benzo(b)fluoranthene	330	U
207-08-9	Benzo(k)fluoranthene	330	U
50-32-8	Benzo(a)pyrene	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	330	U
53-70-3	Dibenz(a,h)anthracene	330	U
191-24-2	Benzo(g,h,i)perylene	330	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLK

Lab Name: metaTRACE, Inc Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: BLANK 101

Sample wt/vol: _____ (g/mL) ___ Lab File ID: >D1670

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ dec. _____ Date Extracted: _____

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/04/87

GPC Cleanup: (Y/N) ___ pH: ___ Dilution Factor: 1

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	108883	Benzene, methyl	6.20	5	J
2.	123422	2-Pentanone, 4-hydroxy-4-methyl	7.81	33	J
3.	—	Unknown	11.27	6	J
4.	—	Unknown	27.57	81	J
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1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK

Lab Name: METATRACE Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: ~~AAO~~ PBLK 10

Sample wt/vol: _____ (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 10-27-87

% Moisture: not dec. _____ dec. _____ Date Extracted: 11-02-87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11-17-87

GPC Cleanup: (Y/N) N pH: ___ Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	8	U
319-85-7	beta-BHC	8	U
319-86-8	delta-BHC	8	U
58-89-9	gamma-BHC (Lindane)	8	U
76-44-8	Heptachlor	8	U
309-00-2	Aldrin	8	U
1024-57-3	Heptachlor epoxide	8	U
959-98-8	Endosulfan I	8	U
60-57-1	Dieldrin	16	U
72-55-9	4,4'-DDE	16	U
72-20-8	Endrin	16	U
33213-65-9	Endosulfan II	16	U
72-54-8	4,4'-DDD	16	U
1031-07-8	Endosulfan sulfate	16	U
50-29-3	4,4'-DDT	16	U
72-43-5	Methoxychlor	80	U
53494-70-5	Endrin ketone	16	U
5103-71-9	alpha-Chlordane	80	U
5103-74-2	gamma-Chlordane	80	U
8001-35-2	Toxaphene	160	U
12674-11-2	Aroclor-1016	80	U
11104-28-2	Aroclor-1221	80	U
11141-16-5	Aroclor-1232	80	U
53469-21-9	Aroclor-1242	80	U
12672-29-6	Aroclor-1248	80	U
11097-69-1	Aroclor-1254	160	U
11096-82-5	Aroclor-1260	160	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EQ257

Lab Name: MetaTRACE, INC Contract: 68-01-7417

Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA05026

Sample wt/vol: 1 (g/mL) g Lab File ID: >C1504

Level: (low/med) LOW Date Received: 10/27/87

% Moisture: not dec. 16.87 Date Analyzed: 11/04/87

Column: (pack/cap) PACK Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
74-87-3	Chloromethane	160	U
74-83-9	Bromomethane	160	U
75-01-4	Vinyl Chloride	160	U
75-00-3	Chloroethane	160	U
75-09-2	Methylene Chloride	940	X
67-64-1	Acetone	600	
75-15-0	Carbon Disulfide	80	U
75-35-4	1,1-Dichloroethene	80	U
75-34-3	1,1-Dichloroethane	80	U
540-59-0	1,2-Dichloroethene (total)	80	U
67-66-3	Chloroform	80	U
107-06-2	1,2-Dichloroethane	80	U
78-93-3	2-Butanone	160	U
71-55-6	1,1,1-Trichloroethane	80	U
56-23-5	Carbon Tetrachloride	80	U
108-05-4	Vinyl Acetate	160	U
75-27-4	Bromodichloromethane	80	U
78-87-5	1,2-Dichloropropane	80	U
10061-01-5	cis-1,3-Dichloropropene	80	U
79-01-6	Trichloroethene	80	U
124-48-1	Dibromochloromethane	80	U
79-00-5	1,1,2-Trichloroethane	80	U
71-43-2	Benzene	80	U
10061-02-6	trans-1,3-Dichloropropene	80	U
75-25-2	Bromoform	80	U
108-10-1	4-Methyl-2-Pentanone	160	U
591-78-6	2-Hexanone	160	U
127-18-4	Tetrachloroethene	80	U
79-34-5	1,1,2,2-Tetrachloroethane	80	U
108-88-3	Toluene	17	
108-90-7	Chlorobenzene	80	U
100-41-4	Ethylbenzene	80	U
100-42-5	Styrene	80	U
1330-20-7	Xylene (total)	80	U

1) Sample Data Summary Pkg.

COMPANY NAME

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EQ257

Lab Name: metaTRACE, Inc Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA05026

Sample wt/vol: 1 (g/mL) g Lab File ID: >C1504

Level: (low/med) LOW Date Received: 10/27/87

% Moisture: not dec. 68.87 Date Analyzed: 11/04/87

Column: (pack/cap) PACK Dilution Factor: 1

Number TICs found: 7 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	—	Unknown	1.70	250	J
2.	—	Unknown	2.57	100	J
3.	—	Unknown	26.62	200	J
4.	—	Unknown	27.85	1300	J
5.	696297	Cyclohexane, (1-methylethyl)	28.93	1100	J
6.	112538	1-Dodecanol	29.96	340	J
7.	696297	Cyclohexane, (1-methylethyl)	30.84	1700	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EQ257

Lab Name: metaTRACE, INC Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA057026

Sample wt/vol: 30.11 (g/mL) g Lab File ID: >D1681

Level: (low/med) LOW Date Received: 10/27/87

% Moisture: not dec. 68.87 dec. _____ Date Extracted: 11/2/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/04/87

GPC Cleanup: (Y/N) ___ pH: ___ Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
108-95-2	Phenol	5760	U
111-44-4	bis(2-Chloroethyl)ether	5760	U
95-57-8	2-Chlorophenol	5760	U
541-73-1	1,3-Dichlorobenzene	5760	U
106-46-7	1,4-Dichlorobenzene	5760	U
100-51-6	Benzyl alcohol	5760	U
95-50-1	1,2-Dichlorobenzene	5760	U
95-48-7	2-Methylphenol	5760	U
108-60-1	bis(2-Chloroisopropyl)ether	5760	U
106-44-5	4-Methylphenol	5760	U
621-64-7	N-Nitroso-di-n-propylamine	5760	U
67-72-1	Hexachloroethane	5760	U
98-95-3	Nitrobenzene	5760	U
78-59-1	Isophorone	5760	U
88-75-5	2-Nitrophenol	5760	U
105-67-9	2,4-Dimethylphenol	5760	U
65-85-0	Benzoic acid	2700	U
111-91-1	bis(2-Chloroethoxy)methane	5760	U
120-83-2	2,4-Dichlorophenol	5760	U
120-82-1	1,2,4-Trichlorobenzene	5760	U
91-20-3	Naphthalene	5760	U
106-47-8	4-Chloroaniline	5760	U
87-68-3	Hexachlorobutadiene	5760	U
59-50-7	4-Chloro-3-methylphenol	5760	U
91-57-6	2-Methylnaphthalene	5760	U
77-47-4	Hexachlorocyclopentadiene	5760	U
88-06-2	2,4,6-Trichlorophenol	5760	U
95-95-4	2,4,5-Trichlorophenol	2700	U
91-58-7	2-Chloronaphthalene	5760	U
88-74-4	2-Nitroaniline	2700	U
131-11-3	Dimethylphthalate	5760	U
208-96-8	Acenaphthylene	5760	U
606-20-2	2,6-Dinitrotoluene	5760	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EQ257

Lab Name: METATRACE, INC Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA05026

Sample wt/vol: 30.11 (g/mL) g Lab File ID: > D1681

Level: (low/med) LOW Date Received: 10/27/87

% Moisture: not dec. 68.87 dec. _____ Date Extracted: 11/2/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/04/87

GPC Cleanup: (Y/N) ___ pH: ____ Dilution Factor: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NO.	COMPOUND		
99-09-2	3-Nitroaniline	2700 mdl 12.7 81	U
83-32-9	Acenaphthene	560	U
51-28-5	2,4-Dinitrophenol	2700	U
100-02-7	4-Nitrophenol	2700	U
132-64-9	Dibenzofuran	560	U
121-14-2	2,4-Dinitrotoluene	560	U
84-66-2	Diethylphthalate	560	U
7005-72-3	4-Chlorophenyl-phenylether	560	U
86-73-7	Fluorene	560	U
100-01-6	4-Nitroaniline	2700	U
534-52-1	4,6-Dinitro-2-methylphenol	2700	U
86-30-6	N-Nitrosodiphenylamine (1)	560	U
101-55-3	4-Bromophenyl-phenylether	560	U
118-74-1	Hexachlorobenzene	560	U
87-86-5	Pentachlorophenol	2700	U
85-01-8	Phenanthrene	560	U
120-12-7	Anthracene	560	U
84-74-2	Di-n-butylphthalate	4800	
206-44-0	Fluoranthene	560	U
129-00-0	Pyrene	560	U
85-68-7	Butylbenzylphthalate	560	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
56-55-3	Benzo(a)anthracene	560	U
218-01-9	Chrysene	560	U
117-81-7	bis(2-Ethylhexyl)phthalate	4900	
117-84-0	Di-n-octylphthalate	560	U
205-99-2	Benzo(b)fluoranthene	560	U
207-08-9	Benzo(k)fluoranthene	560	U
50-32-8	Benzo(a)pyrene	560	U
193-39-5	Indeno(1,2,3-cd)pyrene	560	U
53-70-3	Dibenz(a,h)anthracene	560	U
191-24-2	Benzo(g,h,i)perylene	560	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: EQ257

Lab Name: meta TRACE, INC Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA05026

Sample wt/vol: 30.11 (g/mL) g Lab File ID: >D1681

Level: (low/med) LOW Date Received: 10/27/87

% Moisture: not dec. 68.87 dec. _____ Date Extracted: 11/2/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: ~~11/21/87~~ 12/04/87

GPC Cleanup: (Y/N) ___ pH: ___ Dilution Factor: 1

MCK 12-5

Number TICs found: 20 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	15869939	Octane, 3,5-dimethyl	10.41	7300	J
2.	124185	Decane	11.16	28000	J
3.	17302282	Nonane, 2,6-dimethyl	11.61	9100	J
4.	0	HEPTANE, 3,3,6-TRIMETHYL	11.71	8500	J
5.	544763	Hexadecane	11.83	9900	J
6.	----	UnKnown	11.92	16000	J
7.	17302328	Nonane, 3,7-dimethyl	12.15	7700	J
8.	13151354	Decane, 5-methyl	12.24	13000	J
9.	2847725	Decane, 4-methyl	12.30	11000	J
10.	74645980	Dodecane, 2,7,10-trimethyl	12.37	12000	J
11.	13151343	Decane, 3-methyl	12.49	18000	J
12.	4926787	Cyclohexane, 1-ethyl-4-methyl-cis-	12.86	6800	J
13.	1120214	Undecane	13.01	56000	J
14.	112403	Dodecane	13.32	16000	J
15.	----	UnKnown	13.79	12000	J
16.	4941531	5-Undecane	14.05	12000	J
17.	51756195	1-Nonen-3-one, 2-methyl	14.11	12000	J
18.	4127451	Cyclopropane, 1,1,2-trimethyl	21.11	11000	J
19.	31295564	Dodecane, 2,6,11-trimethyl	21.82	23000	J
20.	54833486	Heptadecane, 2,6,10,15-tetramethyl	23.07	22000	J
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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EQ257

Lab Name: METATRACE Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA05026

Sample wt/vol: _____ (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 10-27-87

% Moisture: not dec._____ dec._____ Date Extracted: 11-02-87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11-17-87

GPC Cleanup: (Y/N) N pH:___ Dilution Factor: .25

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	640	U
319-85-7	beta-BHC	640	U
319-86-8	delta-BHC	640	U
58-89-9	gamma-BHC (Lindane)	640	U
76-44-8	Heptachlor	640	U
309-00-2	Aldrin	640	U
1024-57-3	Heptachlor epoxide	1300	U
959-98-8	Endosulfan I	1300	U
60-57-1	Dieldrin	1300	U
72-55-9	4,4'-DDE	1300	U
72-20-8	Endrin	1300	U
33213-65-9	Endosulfan II	1300	U
72-54-8	4,4'-DDD	1300	U
1031-07-8	Endosulfan sulfate	1300	U
50-29-3	4,4'-DDT	1300	U
72-43-5	Methoxychlor	6400	U
53494-70-5	Endrin ketone	1300	U
5103-71-9	alpha-Chlordane	6400	U
5103-74-2	gamma-Chlordane	6400	U
8001-35-2	Toxaphene	13000	U
12674-11-2	Aroclor-1016	6400	U
11104-28-2	Aroclor-1221	6400	U
11141-16-5	Aroclor-1232	6400	U
53469-21-9	Aroclor-1242	6400	U
12672-29-6	Aroclor-1248	6400	U
11097-69-1	Aroclor-1254	13000	U
11096-82-5	Aroclor-1260		

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EQ258

Lab Name: MetaTRACE, INC Contract: 68-01-7417

Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ057

Matrix: (soil/water) SOIL Lab Sample ID: AA05027

Sample wt/vol: 5.2 (g/mL) g Lab File ID: >C1505

Level: (low/med) LOW Date Received: 10/27/87

Moisture: not dec. 30.15 Date Analyzed: 11/04/87

Column: (pack/cap) PACK Dilution Factor: 1

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	14	U
74-83-9	Bromomethane	14	U
75-01-4	Vinyl Chloride	14	U
75-00-3	Chloroethane	14	U
75-09-2	Methylene Chloride	7	U
67-64-1	Acetone	160	
75-15-0	Carbon Disulfide	35	
75-35-4	1,1-Dichloroethene	7	U
75-34-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (total)	7	U
67-66-3	Chloroform	7	U
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	14	U
71-55-6	1,1,1-Trichloroethane	9	
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	14	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	7	U
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	7	U
10061-02-6	trans-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
108-10-1	4-Methyl-2-Pentanone	14	U
591-78-6	2-Hexanone	14	U
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	130	
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	7	U
100-42-5	Styrene	7	U
1330-20-7	Xylene (total)	7	U

1) Sample Data Summary Pkg.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EQ258

Lab Name: metaTRACE, INC Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA05027

Sample wt/vol: 5.2 (g/mL) g Lab File ID: >C1505

Level: (low/med) LOW Date Received: 10/27/87

% Moisture: not dec. 30.15 Date Analyzed: 11/04/87

Column: (pack/cap) PACK Dilution Factor: 1

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	112925	1-Octadecanol	29.26	1100	J
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EQ2580L

Lab Name: metaTRACE, INC Contract: 68-01-7417

Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA05037 DL

Sample wt/vol: 1 (g/mL) g Lab File ID: >C1535

Level: (low/med) LOW Date Received: 10/23/87

Moisture: not dec. 30.15 Date Analyzed: 11/05/87

Column: (pack/cap) PACK Dilution Factor: .05

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
74-87-3	Chloromethane	72	U
74-83-9	Bromomethane	72	U
75-01-4	Vinyl Chloride	72	U
75-00-3	Chloroethane	72	U
75-09-2	Methylene Chloride	250	B
67-64-1	Acetone	72	U
75-15-0	Carbon Disulfide	36	U
75-35-4	1,1-Dichloroethene	36	U
75-34-3	1,1-Dichloroethane	36	U
540-59-0	1,2-Dichloroethene (total)	36	U
67-66-3	Chloroform	36	U
107-06-2	1,2-Dichloroethane	36	U
78-93-3	2-Butanone	72	U
71-55-6	1,1,1-Trichloroethane	36	U
56-23-5	Carbon Tetrachloride	36	U
108-05-4	Vinyl Acetate	72	U
75-27-4	Bromodichloromethane	36	U
78-87-5	1,2-Dichloropropane	36	U
10061-01-5	cis-1,3-Dichloropropene	36	U
79-01-6	Trichloroethene	36	U
124-48-1	Dibromochloromethane	36	U
79-00-5	1,1,2-Trichloroethane	36	U
71-43-2	Benzene	36	U
10061-02-6	trans-1,3-Dichloropropene	36	U
75-25-2	Bromoform	36	U
108-10-1	4-Methyl-2-Pentanone	72	U
591-78-6	2-Hexanone	72	U
127-18-4	Tetrachloroethene	36	U
79-34-5	1,1,2,2-Tetrachloroethane	36	U
108-88-3	Toluene	110 36 46	U #3
108-90-7	Chlorobenzene	36	U
100-41-4	Ethylbenzene	36	U
100-42-5	Styrene	36	U
1330-20-7	Xylene (total)	36	U

1) Sample Data Summary Pkg.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EQ258DL

Lab Name: metaTRACE, INC Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA05027DL

Sample wt/vol: 1 (g/mL) g Lab File ID: >C1535

Level: (low/med) LOW Date Received: 10/27/87

% Moisture: not dec. 30.15 Date Analyzed: 11/05/87

Column: (pack/cap) PACK Dilution Factor: .05

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	"	NO PEAKS DETECTED	"		
2.					
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1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EQ258

Lab Name: metaTRACE, INC Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA0 5027

Sample wt/vol: 30.15 (g/mL) g Lab File ID: >D1579

Level: (low/med) LOW Date Received: 10/27/87

% Moisture: not dec. 30.15 dec. _____ Date Extracted: 11/2/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/21/87

GPC Cleanup: (Y/N) ___ pH: ___ Dilution Factor: .10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
108-95-2	Phenol	4300	U
111-44-4	bis(2-Chloroethyl)ether	4300	U
95-57-8	2-Chlorophenol	4300	U
541-73-1	1,3-Dichlorobenzene	4300	U
106-46-7	1,4-Dichlorobenzene	4300	U
100-51-6	Benzyl alcohol	4300	U
95-50-1	1,2-Dichlorobenzene	4300	U
95-48-7	2-Methylphenol	4300	U
108-60-1	bis(2-Chloroisopropyl)ether	4300	U
106-44-5	4-Methylphenol	4300	U
621-64-7	N-Nitroso-di-n-propylamine	4300	U
67-72-1	Hexachloroethane	4300	U
98-95-3	Nitrobenzene	4300	U
78-59-1	Isophorone	4300	U
88-75-5	2-Nitrophenol	4300	U
105-67-9	2,4-Dimethylphenol	4300	U
65-85-0	Benzoic acid	21000	U
111-91-1	bis(2-Chloroethoxy)methane	4300	U
120-83-2	2,4-Dichlorophenol	4300	U
120-82-1	1,2,4-Trichlorobenzene	4300	U
91-20-3	Naphthalene	4300	U
106-47-8	4-Chloroaniline	4300	U
87-68-3	Hexachlorobutadiene	4300	U
59-50-7	4-Chloro-3-methylphenol	4300	U
91-57-6	2-Methylnaphthalene	4300	U
77-47-4	Hexachlorocyclopentadiene	4300	U
88-06-2	2,4,6-Trichlorophenol	4300	U
95-95-4	2,4,5-Trichlorophenol	21000	U
91-58-7	2-Chloronaphthalene	4300	U
88-74-4	2-Nitroaniline	21000	U
131-11-3	Dimethylphthalate	4300	U
208-96-8	Acenaphthylene	4300	U
606-20-2	2,6-Dinitrotoluene	4300	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EQ258

Lab Name: metaTRACE, Inc. Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ253

Matrix: (soil/water) SOIL Lab Sample ID: AA05027

Sample wt/vol: 30.15 (g/mL) g Lab File ID: >D1579

Level: (low/med) LOW Date Received: 10/27/87

% Moisture: not dec. 30.15 dec. _____ Date Extracted: 11/2/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/21/87

GPC Cleanup: (Y/N) _____ pH: _____ Dilution Factor: 10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
99-09-2	3-Nitroaniline	21000	U
83-32-9	Acenaphthene	4300	U
51-28-5	2,4-Dinitrophenol	21000	U
100-02-7	4-Nitrophenol	21000	U
132-64-9	Dibenzofuran	4300	U
121-14-2	2,4-Dinitrotoluene	4300	U
84-66-2	Diethylphthalate	4300	U
7005-72-3	4-Chlorophenyl-phenylether	4300	U
86-73-7	Fluorene	4300	U
100-01-6	4-Nitroaniline	21000	U
534-52-1	4,6-Dinitro-2-methylphenol	21000	U
86-30-6	N-Nitrosodiphenylamine (1)	4300	U
101-55-3	4-Bromophenyl-phenylether	4300	U
118-74-1	Hexachlorobenzene	4300	U
87-86-5	Pentachlorophenol	4300	U
85-01-8	Phenanthrene	4300	U
120-12-7	Anthracene	4300	U
84-74-2	Di-n-butylphthalate	4300	U
206-44-0	Fluoranthene	4300	U
129-00-0	Pyrene	4300	U
85-68-7	Butylbenzylphthalate	9200	
91-94-1	3,3'-Dichlorobenzidine	8600	U
56-55-3	Benzo(a)anthracene	4300	U
218-01-9	Chrysene	4300	U
117-81-7	bis(2-Ethylhexyl)phthalate	4300	U
117-84-0	Di-n-octylphthalate	4300	U
205-99-2	Benzo(b)fluoranthene	4300	U
207-08-9	Benzo(k)fluoranthene	4300	U
50-32-8	Benzo(a)pyrene	4300	U
193-39-5	Indeno(1,2,3-cd)pyrene	4300	U
53-70-3	Dibenz(a,h)anthracene	4300	U
191-24-2	Benzo(g,h,i)perylene	4300	U

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

EQ258

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: metaTRACE, Inc Contract: 68-01-7417

Lab Code: MetA Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) Soil Lab Sample ID: AA05027

Sample wt/vol: 30.15 (g/mL) g Lab File ID: >D1579

Level: (low/med) Low Date Received: 10/27/87

% Moisture: not dec. 30.15 dec. _____ Date Extracted: 11/2/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/21/87

GPC Cleanup: (Y/N) ___ pH: ___ Dilution Factor: .10

Number TICs found: 5 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	108883	Benzene, methyl	6.36	12000	J, B
2.	123422	2-Pentanone, 4-hydroxy-4-methyl	7.98	3100	J, A, B
3.	———	Unknown	23.28	2200	J
4.	———	Unknown	29.99	3000	J
5.	———	Unknown	42.28	2000	J
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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EQ258

Lab Name: METATRACE Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA05027

Sample wt/vol: 30.15 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 10-27-87

% Moisture: not dec. 30 dec. _____ Date Extracted: 11-02-87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11-18-87 11/13/87

GPC Cleanup: (Y/N) N pH: ___ Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	110	U
319-85-7	beta-BHC	110	U
319-86-8	delta-BHC	110	U
58-89-9	gamma-BHC (Lindane)	110	U
76-44-8	Heptachlor	110	U
309-00-2	Aldrin	110	U
1024-57-3	Heptachlor epoxide	110	U
959-98-8	Endosulfan I	~~230~~ 110	U
60-57-1	Dieldrin	230	U
72-55-9	4,4'-DDE	230	U
72-20-8	Endrin	230	U
33213-65-9	Endosulfan II	230	U
72-54-8	4,4'-DDD	230	U
1031-07-8	Endosulfan sulfate	230	U
50-29-3	4,4'-DDT	~~460~~ 230	U
72-43-5	Methoxychlor	1100	U
53494-70-5	Endrin ketone	230	U
5103-71-9	alpha-Chlordane	1100	U
5103-74-2	gamma-Chlordane	1100	U
8001-35-2	Toxaphene	2300	U
12674-11-2	Aroclor-1016	1100	U
11104-28-2	Aroclor-1221	1100	U
11141-16-5	Aroclor-1232	1100	U
53469-21-9	Aroclor-1242	1100	U
12672-29-6	Aroclor-1248	1100	U
11097-69-1	Aroclor-1254	~~2300~~ 2300	U
11096-82-5	Aroclor-1260	2300	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EQ259

Lab Name: MetaTRACE, INC Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA05028

Sample wt/vol: 3.58 (g/mL) g Lab File ID: >C1536

Level: (low/med) LOW Date Received: 10/27/87

% Moisture: not dec. 15.59 Date Analyzed: 11/04/87

Column: (pack/cap) PACK Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	16	U
74-83-9	Bromomethane	16	U
75-01-4	Vinyl Chloride	16	U
75-00-3	Chloroethane	16	U
75-09-2	Methylene Chloride	76	
67-64-1	Acetone	40	
75-15-0	Carbon Disulfide	8	U
75-35-4	1,1-Dichloroethene	8	U
75-34-3	1,1-Dichloroethane	8	U
540-59-0	1,2-Dichloroethene (total)	8	U
67-66-3	Chloroform	8	U
107-06-2	1,2-Dichloroethane	8	U
78-93-3	2-Butanone	16	U
71-55-6	1,1,1-Trichloroethane	8	U
56-23-5	Carbon Tetrachloride	8	U
108-05-4	Vinyl Acetate	16	U
75-27-4	Bromodichloromethane	8	U
78-87-5	1,2-Dichloropropane	8	U
10061-01-5	cis-1,3-Dichloropropene	8	U
79-01-6	Trichloroethene	8	U
124-48-1	Dibromochloromethane	8	U
79-00-5	1,1,2-Trichloroethane	8	U
71-43-2	Benzene	8	U
10061-02-6	trans-1,3-Dichloropropene	8	U
75-25-2	Bromoform	8	U
108-10-1	4-Methyl-2-Pentanone	16	U
591-78-6	2-Hexanone	16	U
127-18-4	Tetrachloroethene	8	U
79-34-5	1,1,2,2-Tetrachloroethane	8	U
108-88-3	Toluene	16	
108-90-7	Chlorobenzene	8	U
100-41-4	Ethylbenzene	8	U
100-42-5	Styrene	8	U
1330-20-7	Xylene (total)	8	U

1) Sample Data Summary Pkg.

1E

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EQ259

b Name: MetaTRACE, INC Contract: 68-01-7417

Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

atrix: (soil/water) SOIL Lab Sample ID: AA05028

ample wt/vol: 3.58 (g/mL) g Lab File ID: 7C1536

evel: (low/med) LOW Date Received: 10/27/87

Moisture: not dec. 15.59 Date Analyzed: 11/06/87

olumn: (pack/cap) PACK Dilution Factor: 1

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		NO PEAKS DETECTED			
2.					
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4.					
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EQ259

Lab Name: metaTRACE, INC Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA05028

Sample wt/vol: 30.03 (g/mL) g Lab File ID: >D1580

Level: (low/med) LOW Date Received: 10/27/87

% Moisture: not dec. 15.59 dec. _____ Date Extracted: 11/2/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/21/87

GPC Cleanup: (Y/N) ___ pH: ___ Dilution Factor: .10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
108-95-2	Phenol	3800	U
111-44-4	bis(2-Chloroethyl)ether	3800	U
95-57-8	2-Chlorophenol	3800	U
541-73-1	1,3-Dichlorobenzene	3800	U
106-46-7	1,4-Dichlorobenzene	3800	U
100-51-6	Benzyl alcohol	3800	U
95-50-1	1,2-Dichlorobenzene	3800	U
95-48-7	2-Methylphenol	3800	U
108-60-1	bis(2-Chloroisopropyl)ether	3800	U
106-44-5	4-Methylphenol	3800	U
621-64-7	N-Nitroso-di-n-propylamine	3800	U
67-72-1	Hexachloroethane	3800	U
98-95-3	Nitrobenzene	3800	U
78-59-1	Isophorone	3800	U
88-75-5	2-Nitrophenol	3800	U
105-67-9	2,4-Dimethylphenol	3800	U
65-85-0	Benzoic acid	18000	U
111-91-1	bis(2-Chloroethoxy)methane	3800	U
120-83-2	2,4-Dichlorophenol	3800	U
120-82-1	1,2,4-Trichlorobenzene	3800	U
91-20-3	Naphthalene	3800	U
106-47-8	4-Chloroaniline	3800	U
87-68-3	Hexachlorobutadiene	3800	U
59-50-7	4-Chloro-3-methylphenol	3800	U
91-57-6	2-Methylnaphthalene	3800	U
77-47-4	Hexachlorocyclopentadiene	3800	U
88-06-2	2,4,6-Trichlorophenol	3800	U
95-95-4	2,4,5-Trichlorophenol	18000	U
91-58-7	2-Chloronaphthalene	3800	U
88-74-4	2-Nitroaniline	18000	U
131-11-3	Dimethylphthalate	3800	U
208-96-8	Acenaphthylene	3800	U
606-20-2	2,6-Dinitrotoluene	3800	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EQ259

Lab Name: metaTRACE, INC Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) Soil Lab Sample ID: AA05028

Sample wt/vol: 30.03 (g/mL) g Lab File ID: 7D1580

Level: (low/med) LOW Date Received: 10/27/87

% Moisture: not dec. 15.59 dec. _____ Date Extracted: 11/2/87

Extraction: (SepF/Cont/Sonc) Sonc Date Analyzed: 11/21/87

GPC Cleanup: (Y/N) ___ pH: ____ Dilution Factor: 10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
99-09-2	3-Nitroaniline	1800	U
83-32-9	Acenaphthene	380	U
51-28-5	2,4-Dinitrophenol	1800	U
100-02-7	4-Nitrophenol	1800	U
132-64-9	Dibenzofuran	380	U
121-14-2	2,4-Dinitrotoluene	380	U
84-66-2	Diethylphthalate	380	U
7005-72-3	4-Chlorophenyl-phenylether	380	U
86-73-7	Fluorene	380	U
100-01-6	4-Nitroaniline	1800	U
534-52-1	4,6-Dinitro-2-methylphenol	1800	U
86-30-6	N-Nitrosodiphenylamine (1)	380	U
101-55-3	4-Bromophenyl-phenylether	380	U
118-74-1	Hexachlorobenzene	380	U
87-86-5	Pentachlorophenol	1800	U
85-01-8	Phenanthrene	380	U
120-12-7	Anthracene	380	U
84-74-2	Di-n-butylphthalate	13000	
206-44-0	Fluoranthene	380	U
129-00-0	Pyrene	380	U
85-68-7	Butylbenzylphthalate	380	U
91-94-1	3,3'-Dichlorobenzidine	760	U
56-55-3	Benzo(a)anthracene	380	U
218-01-9	Chrysene	380	U
117-81-7	bis(2-Ethylhexyl)phthalate	380	U
117-84-0	Di-n-octylphthalate	380	U
205-99-2	Benzo(b)fluoranthene	380	U
207-08-9	Benzo(k)fluoranthene	380	U
50-32-8	Benzo(a)pyrene	380	U
193-39-5	Indeno(1,2,3-cd)pyrene	380	U
53-70-3	Dibenz(a,h)anthracene	380	U
191-24-2	Benzo(g,h,i)perylene	380	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EQ259

Lab Name: metaTRACE, Inc Contract: 68-a-3417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA05028

Sample wt/vol: 30.03 (g/mL) g Lab File ID: >D1580

Level: (low/med) LOW Date Received: 10/27/87

% Moisture: not dec. 15.59 dec. _____ Date Extracted: 11/2/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/21/87

GPC Cleanup: (Y/N) ___ pH: ___ Dilution Factor: .10

Number TICs found: 12 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	57556	1,2-Propanediol	5.53	5200	J
2.	108883	Benzene, methyl	6.36	12000	J,B
3.	123422	2-Pentanone, 4-hydroxy-4-methyl	7.98	11000	J,A,B
4.	——	Unknown	22.04	1800	J
5.	——	Unknown	23.00	1800	J
6.	——	Unknown	24.21	2300	J
7.	——	Unknown	24.55	2200	J
8.	——	Unknown	24.89	2000	J
9.	——	Unknown	25.25	1600	J
10.	——	Unknown	26.00	3800	J
11.	——	Unknown	26.08	2700	J
12.	——	Unknown	27.01	5600	J
13.					
14.					
15.					
16.					
17.					
18.					
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20.					
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1D

EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EQ259

Lab Name: METATRACE Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA05028

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 10-27-87

% Moisture: not dec. 16 dec. _____ Date Extracted: 11-02-87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11-11-87

GPC Cleanup: (Y/N) N pH: ___ Dilution Factor: .1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	95	U
319-85-7	beta-BHC	95	U
319-86-8	delta-BHC	95	U
58-89-9	gamma-BHC (Lindane)	95	U
76-44-8	Heptachlor	95	U
309-00-2	Aldrin	95	U
1024-57-3	Heptachlor epoxide	95	U
959-98-8	Endosulfan I	95	U
60-57-1	Dieldrin	PES 11-3-87 95 190	U
72-55-9	4,4'-DDE	190	U
72-20-8	Endrin	190	U
33213-65-9	Endosulfan II	190	U
72-54-8	4,4'-DDD	190	U
1031-07-8	Endosulfan sulfate	190	U
50-29-3	4,4'-DDT	190	U
72-43-5	Methoxychlor	950	U
53494-70-5	Endrin ketone	190	U
5103-71-9	alpha-Chlordane	950	U
5103-74-2	gamma-Chlordane	950	U
8001-35-2	Toxaphene	1900	U
12674-11-2	Aroclor-1016	950	U
11104-28-2	Aroclor-1221	950	U
11141-16-5	Aroclor-1232	950	U
53469-21-9	Aroclor-1242	950	U
12672-29-6	Aroclor-1248	950	U
11097-69-1	Aroclor-1254	1900	U
11096-82-5	Aroclor-1260	1900	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EQ260

Lab Name: meta TRACE, INC Contract: 68-01-7417

Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA05029

Sample wt/vol: 5 (g/mL) g Lab File ID: 7C1507

Level: (low/med) LOW Date Received: 10/22/87

Moisture: not dec. 12.57 Date Analyzed: 11/04/87

Column: (pack/cap) PACK Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q	
74-87-3	Chloromethane	11	U	
74-83-9	Bromomethane	11	U	
75-01-4	Vinyl Chloride	11	U	
75-00-3	Chloroethane	11	U	
75-09-2	Methylene Chloride	370 ~~5~~ HB	~~U~~ HB	12-9-87
67-64-1	Acetone	101		
75-15-0	Carbon Disulfide	6	U	
75-35-4	1,1-Dichloroethene	6	U	
75-34-3	1,1-Dichloroethane	6	U	
540-59-0	1,2-Dichloroethene (total)	6	U	
67-66-3	Chloroform	6	U	
107-06-2	1,2-Dichloroethane	6	U	
78-93-3	2-Butanone	11	U	
71-55-6	1,1,1-Trichloroethane	6	U	
56-23-5	Carbon Tetrachloride	6	U	
108-05-4	Vinyl Acetate	11	U	
75-27-4	Bromodichloromethane	6	U	
78-87-5	1,2-Dichloropropane	6	U	
10061-01-5	cis-1,3-Dichloropropene	6	U	
79-01-6	Trichloroethene	6	U	
124-48-1	Dibromochloromethane	6	U	
79-00-5	1,1,2-Trichloroethane	6	U	
71-43-2	Benzene	6	U	
10061-02-6	trans-1,3-Dichloropropene	6	U	
75-25-2	Bromoform	6	U	
108-10-1	4-Methyl-2-Pentanone	11	U	
591-78-6	2-Hexanone	11	U	
127-18-4	Tetrachloroethene	6	U	
79-34-5	1,1,2,2-Tetrachloroethane	6	U	
108-88-3	Toluene	30		
108-90-7	Chlorobenzene	6	U	
100-41-4	Ethylbenzene	6	U	
100-42-5	Styrene	6	U	
1330-20-7	Xylene (total)	6	U	

1) Sample Data Summary Pkg.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EQ260

Lab Name: META-TRACE, INC Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA05029

Sample wt/vol: 5 (g/mL) g Lab File ID: >C1507

Level: (low/med) LOW Date Received: 10/27/87

% Moisture: not dec. 12.57 Date Analyzed: 11/04/87

Column: (pack/cap) PACK Dilution Factor: 1

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	——	Unknown	19.18	5	J
2.	——	Unknown	25.38	13	J
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EQ260DL

Lab Name: metaTRACE, INC Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA05039DL

Sample wt/vol: 1.61 (g/mL) g Lab File ID: >C1537

Level: (low/med) LOW Date Received: 10/27/87

% Moisture: not dec. 12.57 Date Analyzed: 11/06/87

Column: (pack/cap) PACK Dilution Factor: .05

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	36	U
74-83-9	Bromomethane	36	U
75-01-4	Vinyl Chloride	36	U
75-00-3	Chloroethane	36	U
75-09-2	Methylene Chloride	55	B
67-64-1	Acetone	36	U
75-15-0	Carbon Disulfide	18	U
75-35-4	1,1-Dichloroethene	18	U
75-34-3	1,1-Dichloroethane	18	U
540-59-0	1,2-Dichloroethene (total)	18	U
67-66-3	Chloroform	18	U
107-06-2	1,2-Dichloroethane	18	U
78-93-3	2-Butanone	36	U
71-55-6	1,1,1-Trichloroethane	18	U
56-23-5	Carbon Tetrachloride	18	U
108-05-4	Vinyl Acetate	36	U
75-27-4	Bromodichloromethane	18	U
78-87-5	1,2-Dichloropropane	18	U
10061-01-5	cis-1,3-Dichloropropene	18	U
79-01-6	Trichloroethene	18	U
124-48-1	Dibromochloromethane	18	U
79-00-5	1,1,2-Trichloroethane	18	U
71-43-2	Benzene	18	U
10061-02-6	trans-1,3-Dichloropropene	18	U
75-25-2	Bromoform	18	U
108-10-1	4-Methyl-2-Pentanone	36	U
591-78-6	2-Hexanone	36	U
127-18-4	Tetrachloroethene	18	U
79-34-5	1,1,2,2-Tetrachloroethane	18	U
108-88-3	Toluene	30 18	U HB 12-9-87
108-90-7	Chlorobenzene	18	U
100-41-4	Ethylbenzene	18	U
100-42-5	Styrene	18	U
1330-20-7	Xylene (total)	18	U

1) Sample Data Summary Pkg.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: EQ260 DL

b Name: META TRACE, INC Contract: 68-01-7417

L Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA05029 DL

Sample wt/vol: 1.61 (g/mL) g Lab File ID: >C1537

Level: (low/med) LOW Date Received: 10/27/87

% Moisture: not dec. 12.57 Date Analyzed: 11/04/87

Column: (pack/cap) PACK Dilution Factor: .05

Number TICs found: 0

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		"NO-HSL's Found"			
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EQ260

Lab Name: metaTRACE, INC Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA05029

Sample wt/vol: 30.21 (g/mL) g Lab File ID: >D1581

Level: (low/med) LOW Date Received: 10/27/87

% Moisture: not dec. 12.57 dec. _____ Date Extracted: 11/2/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/21/87

GPC Cleanup: (Y/N) ___ pH: ____ Dilution Factor: .10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
108-95-2	Phenol	3700	U
111-44-4	bis(2-Chloroethyl)ether	3700	U
95-57-8	2-Chlorophenol	3700	U
541-73-1	1,3-Dichlorobenzene	3700	U
106-46-7	1,4-Dichlorobenzene	3700	U
100-51-6	Benzyl alcohol	3700	U
95-50-1	1,2-Dichlorobenzene	3700	U
95-48-7	2-Methylphenol	3700	U
108-60-1	bis(2-Chloroisopropyl)ether	3700	U
106-44-5	4-Methylphenol	3700	U
621-64-7	N-Nitroso-di-n-propylamine	3700	U
67-72-1	Hexachloroethane	3700	U
98-95-3	Nitrobenzene	3700	U
78-59-1	Isophorone	3700	U
88-75-5	2-Nitrophenol	3700	U
105-67-9	2,4-Dimethylphenol	3700	U
65-85-0	Benzoic acid	18000	U
111-91-1	bis(2-Chloroethoxy)methane	3700	U
120-83-2	2,4-Dichlorophenol	3700	U
120-82-1	1,2,4-Trichlorobenzene	3700	U
91-20-3	Naphthalene	3700	U
106-47-8	4-Chloroaniline	3700	U
87-68-3	Hexachlorobutadiene	3700	U
59-50-7	4-Chloro-3-methylphenol	3700	U
91-57-6	2-Methylnaphthalene	3700	U
77-47-4	Hexachlorocyclopentadiene	3700	U
88-06-2	2,4,6-Trichlorophenol	3700	U
95-95-4	2,4,5-Trichlorophenol	18000	U
91-58-7	2-Chloronaphthalene	3700	U
88-74-4	2-Nitroaniline	18000	U
131-11-3	Dimethylphthalate	3700	U
208-96-8	Acenaphthylene	3700	U
606-20-2	2,6-Dinitrotoluene	3700	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EQ260

Lab Name: metaTRACE, INC Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA05029

Sample wt/vol: 30.21 (g/mL) g Lab File ID: 3D1581

Level: (low/med) LOW Date Received: 10/27/87

% Moisture: not dec. 12.57 dec. _____ Date Extracted: 11/2/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/21/87

GPC Cleanup: (Y/N) ___ pH: ____ Dilution Factor: .10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
99-09-2	3-Nitroaniline	18000	U
83-32-9	Acenaphthene	3700	U
51-28-5	2,4-Dinitrophenol	18000	U
100-02-7	4-Nitrophenol	18000	U
132-64-9	Dibenzofuran	3700	U
121-14-2	2,4-Dinitrotoluene	3700	U
84-66-2	Diethylphthalate	3700	U
7005-72-3	4-Chlorophenyl-phenylether	3700	U
86-73-7	Fluorene	3700	U
100-01-6	4-Nitroaniline	18000	U
534-52-1	4,6-Dinitro-2-methylphenol	18000	U
86-30-6	N-Nitrosodiphenylamine (1)	3700	U
101-55-3	4-Bromophenyl-phenylether	3700	U
118-74-1	Hexachlorobenzene	3700	U
87-86-5	Pentachlorophenol	18000	U
85-01-8	Phenanthrene	3700	U
120-12-7	Anthracene	3700	U
84-74-2	Di-n-butylphthalate	37000	
206-44-0	Fluoranthene	3700	U
129-00-0	Pyrene	3700	U
85-68-7	Butylbenzylphthalate	45000	
91-94-1	3,3'-Dichlorobenzidine	7400	U
56-55-3	Benzo(a)anthracene	3700	U
218-01-9	Chrysene	3700	U
117-81-7	bis(2-Ethylhexyl)phthalate	7000	
117-84-0	Di-n-octylphthalate	3700	U
205-99-2	Benzo(b)fluoranthene	3700	U
207-08-9	Benzo(k)fluoranthene	3700	U
50-32-8	Benzo(a)pyrene	3700	U
193-39-5	Indeno(1,2,3-cd)pyrene	3700	U
53-70-3	Dibenz(a,h)anthracene	3700	U
191-24-2	Benzo(g,h,i)perylene	3700	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EQ260

Lab Name: META TRACE, INC Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA05029

Sample wt/vol: 30.21 (g/mL) g Lab File ID: >D1581

Level: (low/med) LOW Date Received: 10/27/87

% Moisture: not dec. 1257 dec. _____ Date Extracted: 11/2/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/21/87

GPC Cleanup: (Y/N) ___ pH: ___ Dilution Factor: 10

Number TICs found: 13

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	57556	1,2-Propanediol	5.61	65000	J
2.	60355	Acetamide	6.21	60000	J
3.	141797	3-Penten-2-one, 4-methyl	7.00	3800	J
4.	123422	2-Pentanone, 4-hydroxy-4-methyl	7.75	28000	J
5.	123422	2-Pentanone, 4-hydroxy-4-methyl	7.90	8700	J
6.	123422	2-Pentanone, 4-hydroxy-4-methyl	7.94	43000	J,A,B
7.	123422	2-Pentanone, 4-hydroxy-4-methyl	8.00	60000	J
8.	----	Unknown	14.86	1800	J
9.	57103	Hexadecanoic acid	24.88	2600	J
10.	123795	Hexanedioic acid, dioctyl ester	29.21	3900	J
11.	115888	Phosphoric acid, octyl diphenyl ester	29.76	9500	J
12.	----	Unknown	33.95	3000	J
13.	----	Unknown	38.50	2300	J
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15.					
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EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EP260

Lab Name: METATRACE Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA05029

Sample wt/vol: 30.2 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 10-27-87

% Moisture: not dec. 13 dec. _____ Date Extracted: 11-02-87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11-7-87

GPC Cleanup: (Y/N) N pH: ___ Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	9	U
319-85-7	beta-BHC	9	U
319-86-8	delta-BHC	9	U
58-89-9	gamma-BHC (Lindane)	9	U
76-44-8	Heptachlor	9	U
309-00-2	Aldrin	9	U
1024-57-3	Heptachlor epoxide	9	U
959-98-8	Endosulfan I	9	U
60-57-1	Dieldrin	18	U
72-55-9	4,4'-DDE	18	U
72-20-8	Endrin	18	U
33213-65-9	Endosulfan II	18	U
72-54-8	4,4'-DDD	18	U
1031-07-8	Endosulfan sulfate	18	U
50-29-3	4,4'-DDT	18	U
72-43-5	Methoxychlor	92	U
53494-70-5	Endrin ketone	18	U
5103-71-9	alpha-Chlordane	92	U
5103-74-2	gamma-Chlordane	92	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	92	U
11104-28-2	Aroclor-1221	92	U
11141-16-5	Aroclor-1232	92	U
53469-21-9	Aroclor-1242	92	U
12672-29-6	Aroclor-1248	92	U
11097-69-1	Aroclor-1254	180	U
11096-82-5	Aroclor-1260	180	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EQ261

Lab Name: metaTRACE, INC Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA05030

Sample wt/vol: 4.74 (g/mL) g Lab File ID: >C1508

Level: (low/med) LOW Date Received: 10/27/87

Moisture: not dec. 8.53 Date Analyzed: 11/04/87

Column: (pack/cap) PACK Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	220	
67-64-1	Acetone	31	
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	12	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	23	
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Xylene (total)	6	U

1) Sample Data Summary Pkg.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EQ261

b Name: metaTRACE, INC Contract: 68-01-7417

Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

atrix: (soil/water) SOIL Lab Sample ID: A105030

ample wt/vol: 4.74 (g/mL) g Lab File ID: >C1508

evel: (low/med) LOW Date Received: 10/27/87

Moisture: not dec. 8.53 Date Analyzed: 11/04/87

olumn: (pack/cap) PACK Dilution Factor: 1

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	1.78	14	J
2.		Unknown	25.34	14	J
3.					
4.					
5.					
6.					
7.					
8.					
9.					
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EQ261

Lab Name: metaTRACE, INC Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA05030

Sample wt/vol: 30.39 (g/mL) g Lab File ID: >D1582

Level: (low/med) LOW Date Received: 10/27/87

% Moisture: not dec. 8.53 dec. _____ Date Extracted: 11/2/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/21/87

GPC Cleanup: (Y/N) ___ pH: ___ Dilution Factor: 10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
108-95-2	Phenol	3600	U
111-44-4	bis(2-Chloroethyl)ether	3600	U
95-57-8	2-Chlorophenol	3600	U
541-73-1	1,3-Dichlorobenzene	3600	U
106-46-7	1,4-Dichlorobenzene	3600	U
100-51-6	Benzyl alcohol	3600	U
95-50-1	1,2-Dichlorobenzene	3600	U
95-48-7	2-Methylphenol	3600	U
108-60-1	bis(2-Chloroisopropyl)ether	3600	U
106-44-5	4-Methylphenol	3600	U
621-64-7	N-Nitroso-di-n-propylamine	3600	U
67-72-1	Hexachloroethane	3600	U
98-95-3	Nitrobenzene	3600	U
78-59-1	Isophorone	3600	U
88-75-5	2-Nitrophenol	3600	U
105-67-9	2,4-Dimethylphenol	3600	U
65-85-0	Benzoic acid	17000	U
111-91-1	bis(2-Chloroethoxy)methane	3600	U
120-83-2	2,4-Dichlorophenol	3600	U
120-82-1	1,2,4-Trichlorobenzene	3600	U
91-20-3	Naphthalene	3600	U
106-47-8	4-Chloroaniline	3600	U
87-68-3	Hexachlorobutadiene	3600	U
59-50-7	4-Chloro-3-methylphenol	3600	U
91-57-6	2-Methylnaphthalene	3600	U
77-47-4	Hexachlorocyclopentadiene	3600	U
88-06-2	2,4,6-Trichlorophenol	3600	U
95-95-4	2,4,5-Trichlorophenol	17000	U
91-58-7	2-Chloronaphthalene	3600	U
88-74-4	2-Nitroaniline	17000	U
131-11-3	Dimethylphthalate	3600	U
208-96-8	Acenaphthylene	3600	U
606-20-2	2,6-Dinitrotoluene	3600	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EQ261

Lab Name: metaTRACE, Inc Contract: 68-01-7417

Lab Code: meta Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA05D30

Sample wt/vol: 30.39 (g/mL) g Lab File ID: >D1582

Level: (low/med) LOW Date Received: 10/27/87

% Moisture: not dec. 8.53 dec. _____ Date Extracted: 11/2/87

Extraction: (SepF/Cont/Sonc) _____ Date Analyzed: 11/21/87

GPC Cleanup: (Y/N) ___ pH: ___ Dilution Factor: 10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
99-09-2	3-Nitroaniline	17000	U
83-32-9	Acenaphthene	3600	U
51-28-5	2,4-Dinitrophenol	17000	U
100-02-7	4-Nitrophenol	17000	U
132-64-9	Dibenzofuran mcl	3600/1700	U
121-14-2	2,4-Dinitrotoluene	3600	U
84-66-2	Diethylphthalate	3600	U
7005-72-3	4-Chlorophenyl-phenylether	3600	U
86-73-7	Fluorene	3600	U
100-01-6	4-Nitroaniline	17000	U
534-52-1	4,6-Dinitro-2-methylphenol	17000	U
86-30-6	N-Nitrosodiphenylamine (1)	3600	U
101-55-3	4-Bromophenyl-phenylether	3600	U
118-74-1	Hexachlorobenzene	3600	U
87-86-5	Pentachlorophenol	17000	U
85-01-8	Phenanthrene	3600	U
120-12-7	Anthracene	3600	U
84-74-2	Di-n-butylphthalate	54000	
206-44-0	Fluoranthene	3600	U
129-00-0	Pyrene	3600	U
85-68-7	Butylbenzylphthalate	14000	
91-94-1	3,3'-Dichlorobenzidine	7200	U
56-55-3	Benzo(a)anthracene	3600	U
218-01-9	Chrysene	3600	U
117-81-7	bis(2-Ethylhexyl)phthalate	5000	
117-84-0	Di-n-octylphthalate	3600	U
205-99-2	Benzo(b)fluoranthene	3600	U
207-08-9	Benzo(k)fluoranthene	3600	U
50-32-8	Benzo(a)pyrene	3600	U
193-39-5	Indeno(1,2,3-cd)pyrene	3600	U
53-70-3	Dibenz(a,h)anthracene	3600	U
191-24-2	Benzo(g,h,i)perylene	3600	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EQ261

Lab Name: metaTRACE, Inc Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: ______ SDG No.: EQ257

Matrix: (soil/water) Soil Lab Sample ID: AA05030

Sample wt/vol: 30.39 (g/mL) g Lab File ID: 7D1582

Level: (low/med) low Date Received: 10/27/87

% Moisture: not dec. 8.53 dec. ______ Date Extracted: 11/2/87

Extraction: (SepF/Cont/Sonc) Sonc Date Analyzed: 11/21/87

GPC Cleanup: (Y/N) ___ pH: ____ Dilution Factor: 1.0

CONCENTRATION UNITS:

Number TICs found: 12 (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q	
1.	57556	1,2-Propanediol	5.62	35000	J	
2.	60355	Acetamide	6.24	23000	J	
3.	544252	1,3,5, Cycloheptatriene	6.36	2600	J	
4.	141797	3-Penten-2-one, 4-methyl	7.03	1600	J	
5.	123422	2-Pentanone, 4-hydroxy-4-methyl	7.90	9600	J	
6.	123422	2-Pentanone, 4-hydroxy-4-methyl	7.94	18000	J,A,B	
7.	123422	2-Pentanone, 4-hydroxy-4-methyl	8.00	37000	J	
HB ~~8.~~	~~367124~~	~~Phenol, 2-Fluoro~~	~~8.66~~	~~2000~~	~~J~~	SUR.
HB ~~9.~~	~~—~~	~~Unknown~~	~~8.70~~	~~4200~~	~~J~~	SURR.
10.	3581893	Thiazole, 5-methyl	10.70	1500	J	
11.	—	Unknown	10.76	2800	J	
12.	—	Unknown	30.70	1800	J	
13.						
14.						
15.						
16.						
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FORM I SV-TIC 1/87 Rev.

1D

EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

FQ261

Lab Name: METATRACE Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: FQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA05030

Sample wt/vol: 30.4 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 10-27-87

% Moisture: not dec. 8.5 dec. _____ Date Extracted: 11-02-87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11-17-87

GPC Cleanup: (Y/N) N pH: ___ Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	9.0	U
319-85-7	beta-BHC	9.0	U
319-86-8	delta-BHC	9.0	U
58-89-9	gamma-BHC (Lindane)	9.0	U
76-44-8	Heptachlor	9.0	U
309-00-2	Aldrin	9.0	U
1024-57-3	Heptachlor epoxide	9.0	U
959-98-8	Endosulfan I	PGF 12-3-87 ~~17.0~~ 9.0	U
60-57-1	Dieldrin	17.0	U
72-55-9	4,4'-DDE	17.0	U
72-20-8	Endrin	17.0	U
33213-65-9	Endosulfan II	17.0	U
72-54-8	4,4'-DDD	17.0	U
1031-07-8	Endosulfan sulfate	17.0	U
50-29-3	4,4'-DDT	17.0	U
72-43-5	Methoxychlor	87.0	U
53494-70-5	Endrin ketone	17.0	U
5103-71-9	alpha-Chlordane	87.0	U
5103-74-2	gamma-Chlordane	87.0	U
8001-35-2	Toxaphene	180.	U
12674-11-2	Aroclor-1016	87	U
11104-28-2	Aroclor-1221	87	U
11141-16-5	Aroclor-1232	87	U
53469-21-9	Aroclor-1242	87	U
12672-29-6	Aroclor-1248	87	U
11097-69-1	Aroclor-1254	180	U
11096-82-5	Aroclor-1260	180	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

EQ262

Lab Name: metaTRACE, INC Contract: 68-01-7417

Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA05031

Sample wt/vol: 4.44 (g/mL) g Lab File ID: 7C1509

Level: (low/med) LOW Date Received: 10/27/87

Moisture: not dec. 16.70 Date Analyzed: 11/04/87

Column: (pack/cap) PACK Dilution Factor: 1

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	14	U
74-83-9	Bromomethane	14	U
75-01-4	Vinyl Chloride	14	U
75-00-3	Chloroethane	14	U
75-09-2	Methylene Chloride	350 J HB	U HB 12-9-87
67-64-1	Acetone	130	
75-15-0	Carbon Disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75-34-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (total)	7	U
67-66-3	Chloroform	7	U
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	14	U
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	14	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	7	U
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	7	U
10061-02-6	trans-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
108-10-1	4-Methyl-2-Pentanone	14	U
591-78-6	2-Hexanone	14	U
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	12	
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	7	U
100-42-5	Styrene	7	U
1330-20-7	Xylene (total)	7	U

1) Sample Data Summary Pkg.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EQ262

Lab Name: meta TRACE, INC Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA05031

Sample wt/vol: 4.44 (g/mL) g Lab File ID: >C1509

Level: (low/med) LOW Date Received: 10/27/87

% Moisture: not dec. 16.90 Date Analyzed: 11/04/87

Column: (pack/cap) PACK Dilution Factor: 1

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	5068-1039	1-Decene, 3,4-dimethyl	26.07	300	J
2.					
3.					
4.					
5.					
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1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

EQ262DL

Lab Name: METATRACE, INC Contract: 68-01-7417

Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA05031DL

Sample wt/vol: 1 (g/mL) g Lab File ID: >C1545

Level: (low/med) LOW Date Received: 10/27/87

% Moisture: not dec. 16.70 Date Analyzed: 11/06/87

Column: (pack/cap) PACK Dilution Factor: .05

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	60	U
74-83-9	Bromomethane	60	U
75-01-4	Vinyl Chloride	60	U
75-00-3	Chloroethane	60	U
75-09-2	Methylene Chloride	120	
67-64-1	Acetone	1100 ~~60~~ HH	UHH 12-9-87
75-15-0	Carbon Disulfide	30	U
75-35-4	1,1-Dichloroethene	30	U
75-34-3	1,1-Dichloroethane	30	U
540-59-0	1,2-Dichloroethene (total)	30	U
67-66-3	Chloroform	30	U
107-06-2	1,2-Dichloroethane	30	U
78-93-3	2-Butanone	60	U
71-55-6	1,1,1-Trichloroethane	30	U
56-23-5	Carbon Tetrachloride	30	U
108-05-4	Vinyl Acetate	60	U
75-27-4	Bromodichloromethane	30	U
78-87-5	1,2-Dichloropropane	30	U
10061-01-5	cis-1,3-Dichloropropene	30	U
79-01-6	Trichloroethene	30	U
124-48-1	Dibromochloromethane	30	U
79-00-5	1,1,2-Trichloroethane	30	U
71-43-2	Benzene	30	U
10061-02-6	trans-1,3-Dichloropropene	30	U
75-25-2	Bromoform	30	U
108-10-1	4-Methyl-2-Pentanone	60	U
591-78-6	2-Hexanone	60	U
127-18-4	Tetrachloroethene	30	U
79-34-5	1,1,2,2-Tetrachloroethane	30	U
108-88-3	Toluene	30	U
108-90-7	Chlorobenzene	30	U
100-41-4	Ethylbenzene	30	U
100-42-5	Styrene	30	U
1330-20-7	Xylene (total)	30	U

1) Sample Data Summary pkg.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EQ262 DL

Lab Name: meta TRACE, INC Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA05031 DL

Sample wt/vol: 1 (g/mL) g Lab File ID: >C1545

Level: (low/med) LOW Date Received: 10/27/87

% Moisture: not dec. 16.70 Date Analyzed: 11/06/87

Column: (pack/cap) PACK Dilution Factor: .05

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		NO PEAKS DETECTED			
2.					
3.					
4.					
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EQ262

Lab Name: metaTRACE, INC Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: AA05031

Sample wt/vol: 30.02 (g/mL) g Lab File ID: >D1583

Level: (low/med) LOW Date Received: 10/27/87

% Moisture: not dec. 16.7 dec. _____ Date Extracted: 11/2/87

Extraction: (SepF/Cont/Sonc) Sonc Date Analyzed: 11/21/87

GPC Cleanup: (Y/N) ___ pH: ___ Dilution Factor: .10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	3900	U
111-44-4	bis(2-Chloroethyl)ether	3900	U
95-57-8	2-Chlorophenol	3900	U
541-73-1	1,3-Dichlorobenzene	3900	U
106-46-7	1,4-Dichlorobenzene	3900	U
100-51-6	Benzyl alcohol	3900	U
95-50-1	1,2-Dichlorobenzene	3900	U
95-48-7	2-Methylphenol	3900	U
108-60-1	bis(2-Chloroisopropyl)ether	3900	U
106-44-5	4-Methylphenol	3900	U
621-64-7	N-Nitroso-di-n-propylamine	3900	U
67-72-1	Hexachloroethane	3900	U
98-95-3	Nitrobenzene	3900	U
78-59-1	Isophorone	3900	U
88-75-5	2-Nitrophenol	3900	U
105-67-9	2,4-Dimethylphenol	3900	U
65-85-0	Benzoic acid	19000	U
111-91-1	bis(2-Chloroethoxy)methane	3900	U
120-83-2	2,4-Dichlorophenol	3900	U
120-82-1	1,2,4-Trichlorobenzene	3900	U
91-20-3	Naphthalene	3900	U
106-47-8	4-Chloroaniline	3900	U
87-68-3	Hexachlorobutadiene	3900	U
59-50-7	4-Chloro-3-methylphenol	3900	U
91-57-6	2-Methylnaphthalene	3900	U
77-47-4	Hexachlorocyclopentadiene	3900	U
88-06-2	2,4,6-Trichlorophenol	3900	U
95-95-4	2,4,5-Trichlorophenol	19000	U
91-58-7	2-Chloronaphthalene	3900	U
88-74-4	2-Nitroaniline	19000	U
131-11-3	Dimethylphthalate	3900	U
208-96-8	Acenaphthylene	3900	U
606-20-2	2,6-Dinitrotoluene	3900	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EQ262

Lab Name: metaTRACE, INC Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) Soil Lab Sample ID: AM05031

Sample wt/vol: 30.02 (g/mL) g Lab File ID: >D1583

Level: (low/med) LOW Date Received: 10/27/87

% Moisture: not dec. 16.7 dec. _____ Date Extracted: 11/2/87

Extraction: (SepF/Cont/Sonc) Sonc Date Analyzed: 11/21/87

GPC Cleanup: (Y/N) ___ pH: ____ Dilution Factor: .10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg	Q
99-09-2	3-Nitroaniline	19000	U
83-32-9	Acenaphthene	3900	U
51-28-5	2,4-Dinitrophenol	19000	U
100-02-7	4-Nitrophenol	19000	U
132-64-9	Dibenzofuran	3900	U
121-14-2	2,4-Dinitrotoluene	3900	U
84-66-2	Diethylphthalate	3900	U
7005-72-3	4-Chlorophenyl-phenylether	3900	U
86-73-7	Fluorene	3900	U
100-01-6	4-Nitroaniline	19000	U
534-52-1	4,6-Dinitro-2-methylphenol	19000	U
86-30-6	N-Nitrosodiphenylamine (1)	3900	U
101-55-3	4-Bromophenyl-phenylether	3900	U
118-74-1	Hexachlorobenzene	3900	U
87-86-5	Pentachlorophenol	19000	U
85-01-8	Phenanthrene	3900	U
120-12-7	Anthracene	3900	U
84-74-2	Di-n-butylphthalate	71000	
206-44-0	Fluoranthene	3900	U
129-00-0	Pyrene	3900	U
85-68-7	Butylbenzylphthalate	36000	
91-94-1	3,3'-Dichlorobenzidine	7700	U
56-55-3	Benzo(a)anthracene	3900	U
218-01-9	Chrysene	3900	U
117-81-7	bis(2-Ethylhexyl)phthalate	3300	J
117-84-0	Di-n-octylphthalate	3900	U
205-99-2	Benzo(b)fluoranthene	3900	U
207-08-9	Benzo(k)fluoranthene	3900	U
50-32-8	Benzo(a)pyrene	3900	U
193-39-5	Indeno(1,2,3-cd)pyrene	3900	U
53-70-3	Dibenz(a,h)anthracene	3900	U
191-24-2	Benzo(g,h,i)perylene	3900	U

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

EQ262

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: METRACE, INC Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) Soil Lab Sample ID: AA05031

Sample wt/vol: 3202 (g/mL) g Lab File ID: >D1583

Level: (low/med) LOW Date Received: 10/27/87

% Moisture: not dec. 16.7 dec. _____ Date Extracted: 11/2/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/21/87

GPC Cleanup: (Y/N) ___ pH: ___ Dilution Factor: .10

Number TICs found: 13 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	57556	1,2-Propanediol	5.61	55000	J
2.	60355	Acetamide	6.19	48000	J
3.	141797	3-Penten-2-one, 4-methyl	7.00	2200	J
4.	123422	2-Pentanone, 4-hydroxy-4-methyl	7.74	21000	J
5.	123422	2-Pentanone, 4-hydroxy-4-methyl	7.89	4400	J
6.	123422	2-Pentanone, 4-hydroxy-4-methyl	7.92	16000	J
7.	123422	2-Pentanone, 4-hydroxy-4-methyl	7.99	52000	J,A,B
8.	367124	Phenol, 2-fluoro (isomer)	8.47	5100	J
9.	367124	Phenol, 2-fluoro (isomer)	8.65	2100	J
10.	367124	Phenol, 2-fluoro (isomer)	8.69	4200	J
11.	3581893	Thiazole, 5-methyl	10.49	1800	J
12.	3581893	Thiazole, 5-methyl	10.74	2500	J
13.	—	Unknown	19.27	2100	J
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. EQ262

Lab Name: METATRACE Contract: 68-01-7417

Lab Code: META Case No.: 8358 SAS No.: _____ SDG No.: EQ257

Matrix: (soil/water) SOIL Lab Sample ID: A405031

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 10-27-87

% Moisture: not dec. 17 dec. _____ Date Extracted: 11-02-87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11-11-87

GPC Cleanup: (Y/N) N pH: ___ Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	10.0	U
319-85-7	beta-BHC	10.0	U
319-86-8	delta-BHC	10.0	U
58-89-9	gamma-BHC (Lindane)	10	U
76-44-8	Heptachlor	10	U
309-00-2	Aldrin	10	U
1024-57-3	Heptachlor epoxide	10	U
959-98-8	Endosulfan I	10	U
60-57-1	Dieldrin	19	U
72-55-9	4,4'-DDE	19	U
72-20-8	Endrin	19	U
33213-65-9	Endosulfan II	19	U
72-54-8	4,4'-DDD	19	U
1031-07-8	Endosulfan sulfate	19	U
50-29-3	4,4'-DDT	19	U
72-43-5	Methoxychlor	96	U
53494-70-5	Endrin ketone	19 96 /DF	U
5103-71-9	alpha-Chlordane	96 190)11-28-87	U
5103-74-2	gamma-Chlordane	96 96	U
8001-35-2	Toxaphene	190	U
12674-11-2	Aroclor-1016	96	U
11104-28-2	Aroclor-1221	96	U
11141-16-5	Aroclor-1232	96	U
53469-21-9	Aroclor-1242	96	U
12672-29-6	Aroclor-1248	96	U
11097-69-1	Aroclor-1254	190	U
11096-82-5	Aroclor-1260	190	U

ROUTINE ANALYTICAL SERVICES
CONTRACT REQUIRED DETECTION AND QUANTITATION LIMITS

TABLE A
CONTRACT LABORATORY PROGRAM
HAZARDOUS SUBSTANCE LIST (HSL)
VOLATILES DETECTION LIMITS

COMPOUND	CAS #	WATER	SOIL SEDIMENT SLUDGE
Chloromethane	74-87-3	10 ug/L	10 ug/KG
Bromomethane	74-83-9	10	10
Vinyl Chloride	75-01-4	10	10
Chloroethane	75-00-3	10	10
Methylene Chloride	75-09-2	5	5
Acetone	67-64-1	10	10
Carbon Disulfide	75-15-0	5	5
1,1-Dichloroethene	75-35-4	5	5
1,1-Dichloroethane	75-35-3	5	5
trans-1,2-Dichloroethene	156-60-5	5	5
Chloroform	67-66-3	5	5
1-2-Dichloroethane	107-06-2	5	5
2-Butanone (MEK)	78-93-3	10	10
1,1,1-Trichloroethane	71-55-6	5	5
Carbon Tetrachloride	56-23-5	5	5
Vinyl Acetate	108-05-4	10	10
Bromodichloromethane	75-27-4	5	5
1,1,2,2-Tetrachloroethane	79-34-5	5	5
1,2-Dichloropropane	78-87-5	5	5
trans-1,3-Dichloropropene	10061-02-6	5	5
Trichloroethene	79-01-6	5	5
Dibromochloromethane	124-48-1	5	5
1,1,2-Trichloroethane	79-00-5	5	5
Benzene	71-43-2	5	5
cis-1,3-Dichloropropene	10061-01-5	5	5
2-Chloroethyl Vinyl Ether	110-75-8	10	10
Bromoform	75-25-2	5	5
2-Hexanone	591-78-6	10	10
4-Methyl-2-pentanone	108-10-1	10	10
Tetrachloroethene	127-18-4	5	5
Toluene	108-88-3	5	5
Chlorobenzene	108-90-7	5	5
Ethyl Benzene	100-41-4	5	5
Styrene	100-42-5	5	5
Total Xylenes		5	5

TABLE A (Cont.)
CONTRACT LABORATORY PROGRAM
HAZARDOUS SUBSTANCE LIST (HSL)
SEMI-VOLATILES DETECTION LIMITS

COMPOUND	CAS #	WATER	SOIL SEDIMENT SLUDGE
N-Nitrosodimethylamine	62-75-9	10 ug/L	330 ug/KG
Phenol	108-95-2	10	330
Aniline	62-53-3	10	330
bis(2-Chloroethyl) ether	111-44-4	10	330
2-Chlorophenol	95-57-8	10	330
1,3-Dichlorobenzene	541-73-1	10	330
1,4-Dichlorobenzene	106-46-7	10	330
Benzyl Alcohol	100-51-6	10	330
1,2-Dichlorobenzene	95-50-1	10	330
2-Methylphenol	95-48-7	10	330
bis(2-Chloroisopropyl) ether	39638-32-9	10	330
4-Methylphenol	106-44-5	10	330
N-Nitroso-Di-n-propylamine	621-64-7	10	330
Hexachloroethane	67-72-1	10	330
Nitrobenzene	98-95-3	10	330
Isophorone	78-59-1	10	330
2-Nitrophenol	88-75-5	10	330
2,4-Dimethylphenol	105-67-9	10	330
Benzoic Acid	65-85-0	50	1600
bis-(2-Chloroethoxy) methane	111-91-1	10	330
2,4-Dichlorophenol	120-83-2	10	330
1,2,4-Trichlorobenzene	120-82-1	10	330
Naphthalene	91-20-3	10	330
4-Chloroaniline	106-47-8	10	330
Hexachlorobutadiene	87-68-3	10	300
4-Chloro-3-methylphenol	59-50-7	10	330
2-Methylnaphthalene	91-57-6	10	330
Hexachlorocyclopentadiene	77-47-4	10	330
2,4,6-Trichlorophenol	88-06-2	10	330
2,4,5-Trichlorophenol	95-95-4	50	1600
2-Chloronaphthalene	91-58-7	10	330
2-Nitroaniline	88-74-4	50	1600
Dimethyl Phthalate	131-11-3	10	330
Acenaphtylene	208-96-8	10	330
3-Nitroaniline	99-09-2	50	1600
Acenaphthene	83-32-9	10	330
2,4-Dinitrophenol	51-28-5	50	1600
4-Nitrophenol	100-02-7	50	1600
Dibenzofuran	132-64-9	10	330
2,4-Dinitrotoluene	121-14-2	10	330
2,6-Dinitrotoluene	606-20-2	10	330
Diethylphthalate	84-66-2	10	330
4-Chlorophenyl phenylether	7005-72-3	10	330

Cont.

TABLE A (Cont.)
CONTRACT LABORATORY PROGRAM
HAZARDOUS SUBSTANCE LIST (HSL)
SEMI-VOLATILES DETECTION LIMITS

COMPOUND	CAS #	WATER	SOIL SLUDGE SEDIMENT
Fluorene	86-73-7	10 ug/L	330 ug/KG
4-Nitroaniline	100-01-6	50	1600
4,6-Dinitro-2-methylphenol	534-52-1	50	1600
N-nitrosodiphenylamine	86-30-6	10	330
4-Bromophenyl phenyl ether	101-55-3	10	330
Hexachlorobenzene	118-74-1	10	330
Pentachlorophenol	87-86-5	50	1600
Phenanthrene	85-01-8	10	330
Anthracene	120-12-7	10	330
Di-n-butyl phthalate	84-74-2	10	330
Fluoranthene	206-44-0	10	330
Benzidine	92-87-5	80	2600
Pyrene	129-00-0	10	330
Butylbenzyl phthalate	85-68-7	10	330
3,3'-Dichlorobenzidine	91-94-7	10	660
Benzo(a)anthracene	56-55-3	10	330
bis(2-ethylhexyl)phthalate	117-81-7	10	330
Chrysene	218-01-9	10	330
Di-n-octyl phthalate	117-84-0	10	330
Benzo(b)fluoranthene	205-99-2	10	330
Benzo(k)fluoranthene	207-08-9	10	330
Benzo(a)pyrene	50-32-8	10	330
Indeno(1,2,3-cd)pyrene	193-39-5	10	330
Dibenz(a,h)anthracene	53-70-3	10	330
Benzo(g,h,i)perylene	191-24-2	10	330

TABLE A (Cont.)
CONTRACT LABORATORY PROGRAM
HAZARDOUS SUBSTANCE LIST (HSL)
PESTICIDE AND PCB DETECTION LIMITS

COMPOUND	CAS #	WATER	SOIL SEDIMENT SLUDGE
alpha-BHC	319-84-6	0.05 ug/L	8 ug/KG
beta-BHC	319-85-7	0.05	8
delta-BHC	319-86-8	0.05	8
gamma-BHC (Lindane)	58-89-9	0.05	8
Heptachlor	76-44-8	0.05	8
Aldrin	309-00-2	0.05	8
Heptachlor Epoxide	1024-57-3	0.05	8
Edosulfan I	959-98-8	0.05	8
Dieldrin	60-57-1	0.10	16
4,4'-DDE	72-55-9	0.10	16
Endrin	72-20-8	0.10	16
Edosulfan II	33213-65-9	0.10	16
4,4'-DDD	72-54-8	0.10	16
Endrin Aldehyde	7421-93-4	0.10	16
Endosulfan Sulfate	1031-07-8	0.10	16
4,4'-DDT	50-29-3	0.10	16
Endrin Ketone	53494-70-5	0.10	16
Methoxychlor (Mariate)	72-43-5	0.5	80
Chlordane	57-74-9	0.5	80
Toxaphene	8001-35-2	1.0	160
AROCLOR-1016	12674-11-2	0.5	80
AROCLOR-1221	11104-28-2	0.5	80
AROCLOR-1232	11141-16-5	0.5	80
AROCLOR-1242	53469-21-9	0.5	80
AROCLOR-1248	12672-29-6	0.5	80
AROCLOR-1254	11097-69-1	1.0	160
AROCLOR-1260	11096-82-5	1.0	160

TABLE A (Cont.)
CONTRACT LABORATORY PROGRAM
HAZARDOUS SUBSTANCE LIST (HSL)
INORGANIC DETECTION LIMITS

COMPOUND	PROCEDURE	DETECTION LIMITS	
		WATER	SOIL SEDIMENT SLUDGE
ALUMINUM	ICP	200 ug/L	40 mg/KG
ANTIMONY	FURNACE	60	2.4
ARSENIC	FURNACE	10	2
BARIUM	ICP	200	40
BERYLLIUM	ICP	5	1
CADMIUM	ICP	5	1
CALCIUM	ICP	5000	1000
CHROMIUM	ICP	10	2
COBALT	ICP	50	10
COPPER	ICP	25	5
IRON	ICP	100	20
LEAD	FURNACE	5	1
MAGNESIUM	ICP	5000	1000
MANGANESE	ICP	15	3
MERCURY	COLD VAPOR	0.2	0.008
NICKEL	ICP	40	8
POTASSIUM	ICP	5000	1000
SELENIUM	FURNACE	5	1
SILVER	ICP	10	2
SODIUM	ICP	5000	1000
THALLIUM	FURNACE	10	2
TIN	ICP	40	8
VANADIUM	ICP	50	10
ZINC	ICP	20	4
CYANIDE	COLOR	10	2

TABLE B
CENTRAL REGIONAL LABORATORY
VOLATILES DETECTION LIMITS

PARAMETER	CAS #	DETECTION LIMIT IN REAGENT WATER
BENZENE	71-43-2	1.5 ug/L
BROMODICHLOROMETHANE	75-27-4	1.5
BROMOFORM	75-25-2	1.5
BROMOMETHANE	74-83-9	10
CARBON TETRACHLORIDE	56-23-5	1.5
CHLOROBENZENE	108-90-7	1.5
CHLOROETHANE	75-00-3	1.5
2-CHLOROETHYL VINYL ETHER	110-75-8	1.5
CHLOROFORM	67-66-3	1.5
CHLOROMETHANE	74-87-3	10
DIBROMOCHLOROMETHANE	124-48-1	1.5
1,1-DICHLOROETHANE	75-34-3	1.5
1,2-DICHLOROETHANE	107-06-2	1.5
1,1-DICHLOROETHENE	75-35-4	1.5
trans-1,2-DICHLOROETHENE	156-60-5	1.5
1,2-DICHLOROPROPANE	78-87-5	1.5
cis-1,3-DICHLOPROPROPENE	10061-01-5	2
trans-1,3-DICHLOROPROPENE	10061-02-6	1
ETHYL BENZENE	100-41-4	1.5
METHYLENE CHLORIDE *	75-09-2	1
1,1,2,2-TETRACHLOROETHANE	79-34-5	1.5
TETRACHLOROETHENE	127-18-4	1.5
TOLUENE *	108-88-3	1.5
1,1,1-TRICHLOROETHANE	71-55-6	1.5
1,1,2-TRICHLOROETHANE	79-00-5	1.5
TRICHLOROETHENE	79-01-6	1.5
VINYL CHLORIDE	75-01-4	10
ACROLEIN	107-02-8	100
ACETONE *	67-64-1	75
ACRYLONITRILE	107-13-1	50
CARBON DISULFIDE	75-15-0	3
2-BUTANONE	78-93-3	(50)
VINYL ACETATE	108-05-4	15
4-METHYL-2-PENTANONE	108-10-1	(3)
2-HEXANONE	519-78-6	(50)
STYRENE	100-42-5	1
m-XYLENE	108-38-3	2
o-XYLENE **	95-47-6	
p-XYLENE **	106-42-3	2.5 **

* Common Laboratory Solvents.
Blank Limit is 5x Method Detection Limit.
( ) Values in parentheses are estimates.
Actual values are being determined at this time
** The o-Xylene and p-xylene are reported as a total of the two.

TABLE B (Cont.)
CRL
SEMI-VOLATILES DETECTION LIMITS

PARAMETER	CAS #	DETECTION LIMIT	BLANK LIMIT
ANILINE	62-53-3	1.5 ug/L	3 ug/L
BIS(2-CHLOROETHYL)ETHER	111-44-4	1.5	3
PHENOL	108-95-2	2	4
2-CHLOROPHENOL	95-57-8	2	4
1,3-DICHLOROBENZENE	541-73-1	2	4
1,4-DICHLOROBENZENE	106-46-7	2	4
1,2-DICHLOROBENZENE	95-50-1	2.5	5
BENZYL ALCOHOL	100-51-6	2	4
BIS(2-CHLOROISOPROPYL) ETHER	39638-32-9	2.5	5
2-METHYLPHENOL	95-48-7	1	2
HEXACHLOROETHANE	67-72-1	2	4
N-NITROSODIPROPYLAMINE	621-64-7	1.5	3
NITROBENZENE	98-95-3	2.5	5
4-METHYLPHENOL	106-44-5	1	2
ISOPHORONE	78-59-1	2.5	5
2-NITROPHENOL	88-75-5	2	4
2,4-DIMETHYLPHENOL	105-67-9	2	4
BIS(2-CHLOROETHOXY)METHANE	111-91-1	2.5	5
2,4-DICHLOROPHENOL	120-83-2	2	4
1,2,4-TRICHLOROBENZENE	120-82-1	2	4
NAPHTHALENE	91-20-3	2	4
4-CHLOROANILINE	106-47-8	2	4
HEXACHLOROBUTADIENE	87-68-3	2.5	5
BENZOIC ACID	65-85-0	(30)	(60)
2-METHYLNAPTHALENE	91-57-6	2	4
4-CHLORO-3-METHYLPHENOL	59-50-7	1.5	3
HEXACHLOROCYCLOPENTADIENE	77-47-4	2	4
2,4,6-TRICHLOROPHENOL	88-06-2	1.5	3
2,4,5-TRICHLOROPHENOL	95-95-4	1.5	3
2-CHLORONAPTHALENE	91-58-7	1.5	3
ACENAPTHYLENE	208-96-8	1.5	3
DIMETHYL PHTHALATE	131-11-3	1.5	3
2,6-DINITROTOLUENE	606-20-2	1	2
ACENAPHTHENE	83-32-9	1.5	3
3-NITROANILINE	99-09-2	2.5	5
DIBENZOFURAN	132-64-9	1	2
2,4-DINITROPHENOL	51-28-5	(15)	(30)
2,4-DINITROTOLUENE	121-14-2	1	2

Cont.

TABLE B (Cont.)
CRL
SEMI-VOLATILE DETECTION LIMITS

PARAMETER	CAS #	DETECTION LIMIT	BLANK LIMIT
FLUORENE	86-73-7	1 ug/L	2 ug/L
4-NITROPHENOL	100-02-7	1.5	3
4-CHLOROPHENYL PHENYL ETHER	7005-72-3	1	2
DIETHYL PHTHALATE	84-66-2	1	2
4,6-DINITRO-2-METHYLPHENOL	534-52-1	(15)	(30)
1,2-DIPHENYLHYDRAZINE	122-66-7	1	2
N-NITROSODIPHENYLAMINE *	86-30-6		
DIPHENYLAMINE *	122-39-4	1.5	3
4-NITROANILINE	100-01-6	3	6
4-BROMOPHENYL PHENYL ETHER	101-55-3	1.5	3
HEXACHLOROBENZENE	118-74-1	1.5	3
PENTACHLOROPHENOL	87-86-5	2	4
PHENANTHRENE	85-01-8	1	2
ANTHRACENE	120-12-7	2.5	5
DI-n-BUTYL PHTHALATE	84-74-2	2	4
FLUORANTHENE	206-44-0	1.5	3
PYRENE	129-00-0	1.5	3
BUTYL BENZYL PHTHALATE	85-68-7	3.5	7
CHRYSENE **	218-01-9		
BENZO(a)ANTHRACENE **	56-55-3	1.5	3
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	1	2
DI-n-OCTYL PHTHALATE	117-84-0	1.5	3
BENZO(b)FLUORANTHENE ***	205-99-2		
BENZO(k)FLUORANTHENE ***	207-08-9	1.5	3
BENZO(a)PYRENE	50-32-8	2	4
INDENO(1,2,3-cd)PYRENE	193-39-5	3.5	7
DIBENZO(a,h)ANTHRACENE	53-70-3	2.5	5
BENZO(g,h,i)PERYLENE	191-24-2	4	8
2-NITROANILINE	88-74-4	1	2

* These two parameters are reported as a total.
** These two parameters are reported as a total.
*** These two parameters are reported as a total.

( ) Values in Paranentheses are estimates.of theALUES ARE BEING
The actual values are being determined at this time.

NOTE: Limits are for reagent water.

TABLE B (Cont.)
CRL
PESTICIDE AND PCB DETECTION LIMITS

PARAMETER	CAS #	DETECTION LIMIT	
ALDRIN	309-00-2	0.005	ug/L
alpha BHC	319-84-6	(0.010)	
beta BHC	319-85-7	(0.005)	
delta BHC	319-86-8	(0.005)	
gama BHC(LINDANE)	58-89-9	0.005	
CHLORDANE	57-74-9	(0.020)	
4,4'-DDD	72-54-8	(0.020)	
4,4'-DDE	72-55-9	(0.005)	
4,4'-DDT	50-29-3	0.020	
DIELDRIN	60-57-1	0.010	
ENDOSULFAN I	959-98-8	0.010	
ENDOSULFAN II	33213-65-9	0.010	
ENDOSULFAN SULFATE	1031-07-8	(0.10)	
ENDRIN	72-20-8	0.010	
ENDRIN ALDEHYDE	7421-93-4	(0.030)	
ENDRIN KETONE	53494-70-5	(0.030)	
HEPTACHLOR	76-44-8	0.030	
HEPTACHLOR EPOXIDE	1024-57-3	0.005	
4,4'-METHOXYCHLOR	72-43-5	0.020	
TOXAPHENE	8001-35-2	(0.25)	
PCB-1242	53469-21-9	(0.10)	
PCB-1248	12672-29-6	(0.10)	
PCB-1254	11097-69-1	(0.10)	
PCB-1260	11096-82-5	(0.10)	

( ) Values in parentheses are estimates.
Actual values are being determined at this time.

NOTE: Limits are for reagent water.

TABLE B (Cont.)
CRL
INORGANIC DETECTION LIMITS

JANUARY 1986

COMPOUND	PROCEDURE	DETECTION LIMITS	RANGE	UNITS
ALUMINUM	ICP	80	80 TO 1,000,000	ug/L
ANTIMONY	FURNACE	2	2 TO 30	ug/L
ARSENIC	FURNACE	2	2 TO 30	ug/L
BARIUM	ICP	6	6 TO 20,000	ug/L
BERYLLIUM	ICP	1	1 TO 20,000	ug/L
BORON	ICP	80	80 TO 20,000	ug/L
CADMIUM	ICP	10	10 TO 20,000	ug/L
CADMIUM	FURNACE	0.2	0.2 TO 2	ug/L
CALCIUM	ICP	0.5	0.5 TO 1,000	mg/L
CHROMIUM	ICP	8	8 TO 20,000	ug/L
COBALT	ICP	6	6 TO 20,000	ug/L
COPPER	ICP	6	6 TO 20,000	ug/L
IRON	ICP	80	80 TO 1,000,000	ug/L
LEAD	FURNACE	2	2 TO 30	ug/L
LEAD	ICP	70	70 TO 20,000	ug/L
LITHIUM	ICP	10	10 TO 20,000	ug/L
MAGNESIUM	ICP	0.1	0.1 TO 200	mg/L
MANGANESE	ICP	5	5 TO 20,000	ug/L
MERCURY	COLD VAPOR	0.1	0.1 TO 2	ug/L
MOLYBDENUM	ICP	15	15 TO 20,000	ug/L
NICKEL	ICP	15	15 TO 20,000	ug/L
POTASSIUM	ICP	2	2 TO 1,000	mg/L
SELENIUM	FURNACE	2	2 TO 30	ug/L
SILVER	ICP	6	6 TO 10,000	ug/L
SODIUM	ICP	1	1 TO 1000	mg/L
STRONTIUM	ICP	10	10 TO 20,000	ug/L
SULFIDE	TITRATION	1	< 1	mg/L
SULFIDE	COLOR	0.05	< 1	mg/L
THALLIUM	FURNACE	2	2 TO 30	ug/L
TITANIUM	ICP	25	25 TO 20,000	ug/L
TIN	ICP	40	40 TO 20,000	ug/L
VANADIUM	ICP	5	5 TO 20,000	ug/L
YTTRIUM	ICP	5	5 TO 20,000	ug/L
ZINC	ICP	40	40 TO 1,000,000	ug/L
CYANIDE	AA	8	8 TO 200	ug/L

NOTE: THE ABOVE LIST MAY OR MAY NOT CONTAIN COMPOUNDS THAT ARE ROUTINELY ANALYZED AT CRL FOR LOW LEVEL DETECTION LIMITS FOR DRINKING WATER.

TABLE C
SPECIAL ANALYTICAL SERVICES DRINKING WATER
VOLATILE DETECTION LIMITS

PARAMETER	CAS #	DETECTION LIMIT IN REAGENT WATER
BENZENE	71-43-2	1.5 ug/L
BROMODICHLOROMETHANE	75-27-4	1.5
BROMOFORM	75-25-2	1.5
BROMOMETHANE	74-83-9	10
CARBON TETRACHLORIDE	56-23-5	1.5
CHLOROBENZENE	108-90-7	1.5
CHLOROETHANE	75-00-3	1.5
2-CHLOROETHYL VINYL ETHER	110-75-8	1.5
CHLOROFORM	67-66-3	1.5
CHLOROMETHANE	74-87-3	10
DIBROMOCHLOROMETHANE	124-48-1	1.5
1,1-DICHLOROETHANE	75-34-3	1.5
1,2-DICHLOROETHANE	107-06-2	1.5
1,1-DICHLOROETHENE	75-35-4	1.5
trans-1,2-DICHLOROETHENE	156-60-5	1.5
1,2-DICHLOROPROPANE	78-87-5	1.5
cis-1,3-DICHLOPROPROPENE	10061-01-5	2
trans-1,3-DICHLOROPROPENE	10061-02-6	1
ETHYL BENZENE	100-41-4	1.5
METHYLENE CHLORIDE *	75-09-2	1
1,1,2,2-TETRACHLOROETHANE	79-34-5	1.5
TETRACHLOROETHENE	127-18-4	1.5
TOLUENE *	108-88-3	1.5
1,1,1-TRICHLOROETHANE	71-55-6	1.5
1,1,2-TRICHLOROETHANE	79-00-5	1.5
TRICHLOROETHENE	79-01-6	1.5
VINYL CHLORIDE	75-01-4	10
ACROLEIN	107-02-8	100
ACETONE *	67-64-1	75
ACRYLONITRILE	107-13-1	50
CARBON DISULFIDE	75-15-0	3
2-BUTANONE	78-93-3	(50)
VINYL ACETATE	108-05-4	15
4-METHYL-2-PENTANONE	108-10-1	(3)
2-HEXANONE	519-78-6	(50)
STYRENE	100-42-5	1
m-XYLENE	108-38-3	2
o-XYLENE **	95-47-6	
p-XYLENE **	106-42-3	2.5 **

* Common Laboratory Solvents.
Blank Limit is 5x Method Detection Limit.
( ) Values in parentheses are estimates.
Actual values are being determined at this time
** The o-Xylene and p-xylene are reported as a total of the two.

TABLE C (Cont.)
SAS DRINKING WATER
SEMI-VOLATILES DETECTION LIMITS

PARAMETER	CAS #	DETECTION LIMIT	BLANK LIMIT
ANILINE	62-53-3	1.5 ug/L	3 ug/L
BIS(2-CHLOROETHYL)ETHER	111-44-4	1.5	3
PHENOL	108-95-2	2	4
2-CHLOROPHENOL	95-57-8	2	4
1,3-DICHLOROBENZENE	541-73-1	2	4
1,4-DICHLOROBENZENE	106-46-7	2	4
1,2-DICHLOROBENZENE	95-50-1	2.5	5
BENZYL ALCOHOL	100-51-6	2	4
BIS(2-CHLOROISOPROPYL) ETHER	39638-32-9	2.5	5
2-METHYLPHENOL	95-48-7	1	2
HEXACHLOROETHANE	67-72-1	2	4
N-NITROSODIPROPYLAMINE	621-64-7	1.5	3
NITROBENZENE	98-95-3	2.5	5
4-METHYLPHENOL	106-44-5	1	2
ISOPHORONE	78-59-1	2.5	5
2-NITROPHENOL	88-75-5	2	4
2,4-DIMETHYLPHENOL	105-67-9	2	4
BIS(2-CHLOROETHOXY)METHANE	111-91-1	2.5	5
2,4-DICHLOROPHENOL	120-83-2	2	4
1,2,4-TRICHLOROBENZENE	120-82-1	2	4
NAPHTHALENE	91-20-3	2	4
4-CHLOROANILINE	106-47-8	2	4
HEXACHLOROBUTADIENE	87-68-3	2.5	5
BENZOIC ACID	65-85-0	(30)	(60)
2-METHYLNAPTHALENE	91-57-6	2	4
4-CHLORO-3-METHYLPHENOL	59-50-7	1.5	3
HEXACHLOROCYCLOPENTADIENE	77-47-4	2	4
2,4,6-TRICHLOROPHENOL	88-06-2	1.5	3
2,4,5-TRICHLOROPHENOL	95-95-4	1.5	3
2-CHLORONAPTHALENE	91-58-7	1.5	3
ACENAPTHYLENE	208-96-8	1.5	3
DIMETHYL PHTHALATE	131-11-3	1.5	3
2,6-DINITROTOLUENE	606-20-2	1	2
ACENAPHTHENE	83-32-9	1.5	3
3-NITROANILINE	99-09-2	2.5	5
DIBENZOFURAN	132-64-9	1	2
2,4-DINITROPHENOL	51-28-5	(15)	(30)
2,4-DINITROTOLUENE	121-14-2	1	2

Cont.

TABLE C (Cont.)
SAS DRINKING WATER
SEMI-VOLATILE DETECTION LIMITS

PARAMETER	CAS #	DETECTION LIMIT	BLANK LIMIT
FLUORENE	86-73-7	1 ug/L	2 ug/L
4-NITROPHENOL	100-02-7	1.5	3
4-CHLOROPHENYL PHENYL ETHER	7005-72-3	1	2
DIETHYL PHTHALATE	84-66-2	1	2
4,6-DINITRO-2-METHYLPHENOL	534-52-1	(15)	(30)
1,2-DIPHENYLHYDRAZINE	122-66-7	1	2
N-NITROSODIPHENYLAMINE *	86-30-6		
DIPHENYLAMINE *	122-39-4	1.5	3
4-NITROANILINE	100-01-6	3	6
4-BROMOPHENYL PHENYL ETHER	101-55-3	1.5	3
HEXACHLOROBENZENE	118-74-1	1.5	3
PENTACHLOROPHENOL	87-86-5	2	4
PHENANTHRENE	85-01-8	1	2
ANTHRACENE	120-12-7	2.5	5
DI-n-BUTYL PHTHALATE	84-74-2	2	4
FLUORANTHENE	206-44-0	1.5	3
PYRENE	129-00-0	1.5	3
BUTYL BENZYL PHTHALATE	85-68-7	3.5	7
CHRYSENE **	218-01-9		
BENZO(a)ANTHRACENE **	56-55-3	1.5	3
BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	1	2
DI-n-OCTYL PHTHALATE	117-84-0	1.5	3
BENZO(b)FLUORANTHENE ***	205-99-2		
BENZO(k)FLUORANTHENE ***	207-08-9	1.5	3
BENZO(a)PYRENE	50-32-8	2	4
INDENO(1,2,3-cd)PYRENE	193-39-5	3.5	7
DIBENZO(a,h)ANTHRACENE	53-70-3	2.5	5
BENZO(g,h,i)PERYLENE	191-24-2	4	8
2-NITROANILINE	88-74-4	1	2

* These two parameters are reported as a total.
** These two parameters are reported as a total.
*** These two parameters are reported as a total.

( ) Values in Paranentheses are estimates.of theALUES ARE BEING
The actual values are being determined at this time.

NOTE: Limits are for reagent water.

TABLE C (Cont.)
SAS DRINKING WATER
PESTICIDE AND PCB DETECTION LIMITS

PARAMETER	CAS #	DETECTION LIMIT
ALDRIN	309-00-2	0.005 ug/L
alpha BHC	319-84-6	(0.010)
beta BHC	319-85-7	(0.005)
delta BHC	319-86-8	(0.005)
gama BHC(LINDANE)	58-89-9	0.005
CHLORDANE	57-74-9	(0.020)
4,4'-DDD	72-54-8	(0.020)
4,4'-DDE	72-55-9	(0.005)
4,4'-DDT	50-29-3	0.020
DIELDRIN	60-57-1	0.010
ENDOSULFAN I	959-98-8	0.010
ENDOSULFAN II	33213-65-9	0.010
ENDOSULFAN SULFATE	1031-07-8	(0.10)
ENDRIN	72-20-8	0.010
ENDRIN ALDEHYDE	7421-93-4	(0.030)
ENDRIN KETONE	53494-70-5	(0.030)
HEPTACHLOR	76-44-8	0.030
HEPTACHLOR EPOXIDE	1024-57-3	0.005
4,4'-METHOXYCHLOR	72-43-5	0.020
TOXAPHENE	8001-35-2	(0.25)
PCB-1242	53469-21-9	(0.10)
PCB-1248	12672-29-6	(0.10)
PCB-1254	11097-69-1	(0.10)
PCB-1260	11096-82-5	(0.10)

( ) Values in parentheses are estimates.
Actual values are being determined at this time.

NOTE: Limits are for reagent water.

TABLE C (Cont.)
SAS DRINKING WATER
INORGANIC DETECTION LIMITS

JANUARY 1986

PARAMETER	PROCEDURE	DETECTION LIMITS	RANGE	UNITS
ALUMINUM	ICP	80	80 TO 1,000,000	ug/L
ANTIMONY	FURNACE	2	2 TO 30	ug/L
ARSENIC	FURNACE	2	2 TO 30	ug/L
BARIUM	ICP	6	6 TO 20,000	ug/L
BERYLLIUM	ICP	1	1 TO 20,000	ug/L
CADMIUM	ICP	10	10 TO 20,000	ug/L
CADMIUM	FURNACE	0.2	0.2 TO 2	ug/L
CALCIUM	ICP	0.5	0.5 TO 1,000	mg/L
CHROMIUM	ICP	8	8 TO 20,000	ug/L
COBALT	ICP	6	6 TO 20,000	ug/L
COPPER	ICP	6	6 TO 20,000	ug/L
IRON	ICP	80	80 TO 1,000,000	ug/L
LEAD	FURNACE	2	2 TO 30	ug/L
LEAD	ICP	70	70 TO 20,000	ug/L
LITHIUM	ICP	10	10 TO 20,000	ug/L
MAGNESIUM	ICP	0.1	0.1 TO 200	mg/L
MANGANESE	ICP	5	5 TO 20,000	ug/L
MERCURY	COLD VAPOR	0.1	0.1 TO 2	ug/L
MOLYBDENUM	ICP	150	15 TO 20,000	ug/L
NICKEL	ICP	15	15 TO 20,000	ug/L
POTASSIUM	ICP	2	2 TO 1,000	mg/L
SELENIUM	FURNACE	2	2 TO 30	ug/L
SILVER	ICP	6	6 TO 10,000	ug/L
SODIUM	ICP	1	1 TO 30	mg/L
STRONTIUM	ICP	10	10 TO 20,000	ug/L
THALLIUM	FURNACE	2	2 TO 30	ug/L
TITANIUM	ICP	25	25 TO 20,000	ug/L
TIN	ICP	40	40 TO 20,000	ug/L
VANADIUM	ICP	5	5 TO 20,000	ug/L
YTTRIUM	ICP	5	5 TO 20,000	ug/L
ZINC	ICP	40	40 TO 1,000,000	ug/L
CYANIDE	AA	8	8 TO 200	ug/L

NOTE: THE ABOVE LIST MAY OR MAY NOT CONTAIN COMPOUNDS THAT ARE ROUTINELY ANALYZED AT CRL FOR LOW LEVEL DETECTION LIMITS FOR DRINKING WATER.

APPENDIX F

WELL LOGS OF THE AREA OF THE SITE

White Copy – Ill. Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

STRU IS T ILLE

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, ROOM 616, STATE OFFICE BUILDING, SPRINGFIELD, ILLINOIS, 62706. DO NOT DETACH GEOLOGICAL / WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug____. Bored____. Hole Diam. 5 in. Depth 110 ft.
   Curb material _____. Buried Slab: Yes_____ No_____
   b. Driven_____. Drive Pipe Diam. _____in. Depth _____ft.
   c. Drilled _____. Finished in Drift_____. In Rock X.
   Tubular _____. Gravel Packed _____.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)
Limestone		
Cement	0	40'

2. Distance to Nearest:
   Building 42 Ft. Seepage Tile Field 120
   Cess Pool none Sewer (non Cast iron) 70
   Privy none Sewer (Cast iron) 70
   Septic Tank 85 Barnyard none
   Leaching Pit none Manure Pile none
3. Is water from this well to be used for human consumption?
   Yes X No_____
4. Date well completed 12-11-1973
5. Permanent Pump Installed? Yes X No_____
   Manufacturer Red Jacket Type 50WI-9AC-Sub.
   Capacity 5-7 gpm. Depth of setting 84 ft.
6. Well Top Sealed? Yes X Baker Monitor Wattstite seal No_____
7. Pitless Adaptor Installed? Yes X Baker Monitor gravity No_____ attached & held by clamps
8. Well Disinfected? Yes X No_____
9. Water Sample Submitted? Yes_____ No X

REMARKS: 42 gal W X 202 pressure tank located in basement

IDPH 4.065
10/68

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Joseph Palermo JR. Well No._____
    Address Towpath Lane Wilmington IL
    Driller Marvin E. Norris License No. 102-41
11. Permit No. 26533 Date 11-15-1973
12. Water from Limestone 13. County Will
    Formation
    at depth 45 to 100 ft.
14. Screen: Diam._____in.
    Length:_____ft. Slot_____
    Sec. 36.7C
    Twp. 33N
    Rge. 9E
    Elev._____

	X		
X			

SHOW LOCATION IN SECTION PLAT
SE NW SW

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	Sch-40		
	Galv.	1	40

16. Size Hole below casing: 5 in.
17. Static level 19 ft. below casing top which is 1 ft. above ground level. Pumping level 64 ft. when pumping at 6- gpm for 2 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Earth mantle	0	7
Limestone	7	55
Shale	55	110

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Marvin E Norris DATE 12-14-1973

TRU IS T ILLE

White Copy — Ill. Dept. of Public Health
Yellow Copy — Well Contractor
Blue Copy — Well Owner

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, ROOM 616, STATE OFFICE BUILDING, SPRINGFIELD, ILLINOIS, 62706. DO NOT DETACH GEOLOGICAL / WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug ____. Bored ____. Hole Diam. 5 in. Depth 105 ft.
      Curb material ____. Buried Slab: Yes ____ No ____
   b. Driven ____. Drive Pipe Diam. ____ in. Depth ____ ft.
   c. Drilled ____. Finished in Drift ____. In Rock ____.
      Tubular ____. Gravel Packed ____.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)

2. Distance to Nearest:
   Building 26 Ft. — Seepage Tile Field 120
   Cess Pool none — Sewer (non Cast iron) 65
   Privy none — Sewer (Cast iron) 65
   Septic Tank 75 — Barnyard None
   Leaching Pit none — Manure Pile None
3. Is water from this well to be used for human consumption?
   Yes X No ____
4. Date well completed 10-16-1973
5. Permanent Pump Installed? Yes X No ____
   Manufacturer Red Jacket Type 50WY-98C-2
   Capacity 5-70 gpm. Depth of setting 80 ft.
6. Well Top Sealed? Yes X No ____ (Baker water tite C-4 seal)
7. Pitless Adaptor Installed? Yes X No ____ (Baker monitor snappy attached to casing by clamp)
8. Well Disinfected? Yes X No ____
9. Water Sample Submitted? Yes ____ No X

REMARKS: 42 gal W x 202 pressure tank located in house

IDPH 4.065
10/68

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Melvin L. Frost Well No. ____
    Address 20 335 Wilmington Ill 60481
    Driller Marvin G. Norris License No. 102-41
11. Permit No. 21144 Date 11-29-1973
12. Water from Limestone (Formation) 13. County Will
    at depth 70 to 105 ft.
14. Screen: Diam. ____ in.
    Length: ____ ft. Slot ____

Sec. 35 Twp. 33 N Rge. 9 E Elev. ____

SHOW LOCATION IN SECTION PLAT: NE SW SW

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5"	Sch-40		
	Galv.	18"	46

16. Size Hole below casing: 5 in.
17. Static level 50 ft. below casing top which is 18" ft. above ground level. Pumping level 60 ft. when pumping at 10 gpm for 1 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Earth Mantle	0	46
Shale	46-	70
Limestone	70	100'
Shale	100'	105"

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Marvin G Norris DATE 10-19-1973

White – Ill. Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug____. Bored____. Hole Diam. 5 in. Depth 125 ft.
   Curb material ____. Buried Slab: Yes____ No____
   b. Driven____. Drive Pipe Diam. ____in. Depth ____ft.
   c. Drilled____. Finished in Drift____. In Rock____.
   Tubular____. Gravel Packed____.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)
cuttings	0	42

2. Distance to Nearest:
   Building 25 Ft. — Seepage Tile Field 75
   Cess Pool ____ — Sewer (non Cast iron) ____
   Privy ____ — Sewer (Cast iron) ____
   Septic Tank ____ — Barnyard ____
   Leaching Pit ____ — Manure Pile ____
3. Well furnishes water for human consumption? Yes x No____
4. Date well completed 10-15-79
5. Permanent Pump Installed? Yes x Date 10-16-79 No____
   Manufacturer Gould Type Subm Location in well
   Capacity 10 gpm. Depth of Setting 120 Ft.
6. Well Top Sealed? Yes x No____ Type Williams Cap
7. Pitless Adapter Installed? Yes x No____
   Manufacturer Williams Model Number B50AC
   How attached to casing? locknut
8. Well Disinfected? Yes x No____
9. Pump and Equipment Disinfected? Yes x No____
10. Pressure Tank Size 42 gal. Type Well-X-Trol
    Location by well
11. Water Sample Submitted? Yes____ No x

REMARKS: Owner instructed to take sample.

IDPH 4.065
1/74 – KNB-1

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Paul Johnson Well No. ____
    Address P.O. Box 364 Wilmington, Il.
    Driller Will-DuPage Drilling License No. 102-000445
11. Permit No. 90543 Date 10-12-79
12. Water from Limestone (Formation) 13. County Will
    at depth ____ to ____ ft.
14. Screen: Diam. ____ in.
    Length: ____ ft. Slot ____
    Sec. 35.6
    Twp. 33N
    Rge. 9E
    Elev. ____

SHOW LOCATION IN SECTION PLAT
SW SE NW

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	Black Steel 14.98	0	42

16. Size Hole below casing: 5 in.
17. Static level 100 ft. below casing top which is 1 ft. above ground level. Pumping level 100 ft. when pumping at 10 gpm for 4 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Clay & Gravel	42	42
Limestone	83	125

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED [signature] DATE 10-16-79

WILMINGTON

The city of Wilmington (4335) installed a public water supply in 1892. Two wells (Nos. 2 and 3) are in use and another well (No. 1) is available for emergency use. In 1949 there were 900 services, 66 percent metered; the average pumpage was 270,000 gpd. In 1980 there were 1740 services, all metered; the average pumpage was 536,224 gpd. The water is chlorinated and treated with polyphosphate to keep iron in solution.

Initially, water was pumped directly from the Kankakee River for sprinkling and fire protection use. Private wells furnished all residential and business demands until 1918 when the first well was drilled for the city. The waterworks plant at the river was then abandoned.

WELL NO. 1, open to the Galena-Platteville dolomite and the Glenwood-St. Peter Sandstone, was completed in 1917 to a depth of 710 ft by J. W. Hensley & Co., Indianapolis, Ind. This well is available for emergency use. The well is located about 104 ft south of Jackson St. and 90 ft west of Main St. in a pumphouse in the rear of the city hall, approximately 1025 ft N and 1300 ft E of the SW corner of Section 25, T33N, R9E. The land surface elevation at the well is approximately 545 ft.

A sample study log of Well No. 1 furnished by the State Geological Survey follows:

Strata	*Thickness (ft)*	*Depth (ft)*
QUATERNARY SYSTEM		
Pleistocene Series		
Glacial drift	15	15
ORDOVICIAN SYSTEM		
Maquoketa Group		
Ft. Atkinson Limestone	80	95
Scales Shale		
Shale with some limestone	45	140
Galena and Platteville Groups		
Limestone and dolomite	365	505
Ancell Group		
Glenwood Formation		
Dolomitic sandstone	20	525
St. Peter Sandstone		
Sandstone, water bearing	165	690
Prairie du Chien Group		
Shakopee Dolomite	20	710

The well is cased with 12-in. pipe from 2 ft above the pump station floor to a depth of 21 ft (cemented in) and 10-in. pipe from 21 ft to a depth of 210 ft. Below the casing, the hole was finished 10 in. in diameter to the bottom.

Upon completion, the nonpumping water level was reported to be 17 ft below land surface.

A production test was conducted on March 5-6, 1943, by representatives of the Stannard Power & Equipment Co., the city, the State Water Survey, and the Federal Works Agency. After 24.1 hr of pumping at rates ranging from 264 to 315 gpm, the maximum drawdown was 124 ft from a nonpumping water level of 118 ft below the pump base. The water level recovered to 122 ft after pumping had been stopped for 2.1 hr. During the test, Well No. 2 was operating intermittently.

In July 1952, Jack Hinton, Lockport, shot the well between the depths of 600 and 704 ft with 171 lb of nitrogel and 20 lb of 60 percent dynamite for primer and cleaned out the well to its original depth. On September 21, 1952, the well reportedly produced from 308 to 302 gpm for 1.4 hr with a drawdown of 80 ft from a nonpumping water level of 144 ft. During this test, Well No. 2 was pumping continuously.

The pumping equipment presently installed consists of a 40-hp General Electric motor, an 8-in., 21-stage Pomona turbine pump set at 300 ft, rated at 250 gpm, and has 300 ft of 6-in. column pipe. A 30-ft section of 6-in. suction pipe is attached to the pump intake. The well is equipped with 300 ft of airline.

A partial analysis of a sample (Lab. No. 97798) collected October 18, 1943, showed the water to have a hardness of 407 mg/l, total dissolved minerals of 1100 mg/l, and an iron content of 0.0 mg/l.

WELL NO. 2, open to the Cambrian-Ordovician aquifer, was completed in 1936 to a depth of 1566 ft (measured in October 1954 at 1536 ft deep) by C. W. Varner, Dubuque, Iowa. The well is located about 175 ft north and 75 ft east of Well No. 1, approximately 1200 ft N and 1375 ft E of the SW corner of Section 25, T33N, R9E. The land surface elevation at the well is approximately 546 ft.

A sample study log of Well No. 2 furnished by the State Geological Survey follows:

Strata	*Thickness (ft)*	*Depth (ft)*
QUATERNARY SYSTEM		
Pleistocene Series		
"Soil, clay and soft lime shells"	9	9
"Sand and gravel"	11	20
ORDOVICIAN SYSTEM		
Maquoketa Group		
Ft. Atkinson Limestone	70	90
Scales Shale		
Shale, some limestone	57	147
Galena and Platteville Groups		
Limestone and dolomite	365	512
Ancell Group		
Glenwood Formation		
Sandstone, partly dolomitic	13	525
St. Peter Sandstone		
Sandstone, incoherent	150	675
Sandstone, shale, chert	7	682
Prairie du Chien Group		
Shakopee Dolomite		
Dolomite, thin shale bed at top	73	755
New Richmond Sandstone		
Sandstone and dolomite	13	768
Oneota Dolomite		
Dolomite, thin beds of sandstone	277	1045
CAMBRIAN SYSTEM		
Eminence-Potosi Dolomite	218	1263
Franconia Formation		
Sandstone, dolomite, thin beds of shale	137	1400
Ironton-Galesville Sandstone		
Sandstone and dolomite	100	1500
Sandstone, incoherent	35	1535
Sandstone, partly dolomitic	31	1566

A 12.5-in. diameter hole was drilled to a depth of 218 ft and finished 10 in. in diameter from 218 to 1566 ft. The well is cased with 12.5-in. drive pipe from 0.5 ft above the pump station floor to a depth of 23.2 ft and 10-in. pipe from 0.5 ft above the pump station floor to a depth of 218 ft.

Upon completion, the well reportedly produced 485 gpm with a drawdown of 6.5 ft from a nonpumping water level of 59.0 ft below the top of the casing.

In 1940, the nonpumping water level was reported to be 67 ft below the pump base.

A production test was conducted in November 1942, by representatives of the J. P. Miller Artesian Well Co., Brookfield, the city, the Federal Works Agency, and E. T. Mulford, Consulting Engineer. After 24 hr of pumping at rates ranging from 725 to 815 gpm, the drawdown was 16.5 ft from a nonpumping water level of 124.0 ft below the pump base. During this test, Well No. 1 was pumping intermittently.

In November 1954, the well reportedly produced 640 gpm with a drawdown of 23 ft from a nonpumping water level of 154 ft.

Nonpumping water levels were reported to be 124 ft in October 1955 and 319 ft on October 6, 1975.

The pumping equipment presently installed is a Johnston turbine pump set at 300 ft, rated at 750 gpm, and powered by a 125-hp 1800 rpm U. S. electric motor.

A mineral analysis made by the Illinois Environmental Protection Agency (Lab. No. C001978) of a sample collected November 14, 1977, after pumping for 30 min at 760 gpm, showed the water to have a hardness of 424 mg/l, total dissolved minerals of 1168 mg/l, and an iron content of 0.1 mg/l.

WELL NO. 3, open to the Cambrian-Ordovician aquifer, was completed in November 1964 to a depth of 1578 ft by the Wehling Well Works, Beecher. The well is located in the city park on South Island east of South Park St., approximately 240 ft S and 1125 ft E of the NW corner of Section 36, T33N, R9E. The land surface elevation at the well is approximately 530 ft.

A drillers log of Well No. 3 follows:

Strata	*Thickness (ft)*	*Depth (ft)*
Drift	15	15
Lime	35	50
Shale and lime	114	164
Lime	336	500
Sand	163	663
Lime and shale	43	706
Lime and sand	59	765
Lime	401	1166
Sand and lime	43	1209
Lime	23	1232
Sandy lime	41	1273
Sandy shale and lime	76	1349
Shale	40	1389
Sandy lime	19	1408
Lime	52	1460
Sandy lime	42	1502
Sand	55	1557
Gray lime	7	1564
Shale and lime	14	1578

A 20-in. diameter hole was drilled to a depth of 14 ft, reduced to 19 in. between 14 and 174 ft, reduced to 16 in. between 174 and 765 ft, and finished 12 in. in diameter from 765 to 1578 ft. The well is cased with 20-in. pipe from 0.8 ft above the pumphouse floor to a depth of 14 ft and 16-in. pipe from 0.8 ft above the pumphouse floor to a depth of 174 ft (cemented in).

A production test was conducted by the driller on December 3-4, 1964. After 24 hr of pumping at a rate of 1200 gpm, the final drawdown was 298 ft from a nonpumping water level of 169 ft below land surface.

On October 6, 1975, the nonpumping water level was reported to be 300 ft.

The pumping equipment presently installed consists of a 150-hp 1800 rpm U. S. electric motor, a 14-in., 7-stage Johnston vertical turbine pump set at 410 ft, rated at 750 gpm at about 550 ft head, and has 410 ft of 8-in. column pipe. The well is equipped with 410 ft of airline.

The following mineral analysis made by the Illinois Environmental Protection Agency (Lab. No. B18488) is for a water sample from the well collected October 29, 1975, after 4 hr of pumping.

WELL NO. 3, LABORATORY NO. B18488

		mg/l	*me/l*			*mg/l*	*me/l*
Iron	Fe	0.1		Silica	SiO_2	8	
Manganese	Mn	0.00		Fluoride	F	1.2	0.06
Ammonium	NH_4	1.4	0.08	Boron	B	1.0	
Sodium	Na	280	12.18	Nitrate	NO_3	0.0	0.00
Potassium	K	21	0.54	Chloride	Cl	273	7.70
Calcium	Ca	104	5.19	Sulfate	SO_4	406	8.44
Magnesium	Mg	41	3.37	Alkalinity (as $CaCO_3$)		288	5.76
Arsenic	As	0.01		Hardness (as $CaCO_3$)		428	8.56
Barium	Ba	0.0					
Cadmium	Cd	0.00		Total dissolved			
Chromium	Cr	0.00		minerals		1268	
Copper	Cu	0.01					
Lead	Pb	0.00					
Mercury	Hg	0.0000					
Nickel	Ni	0.0					
Selenium	Se	0.00					
Silver	Ag	0.00					
Zinc	Zn	0.0		pH (as rec'd)		7.6	